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ABSTRACT

The university and the needs of contemporary society are discussed in relationship to the complexity and diversity of the interactions between universities and societies resulting from the diversity of traditions, resources, and socioeconomic contexts. Emphasis is placed on some past and present conceptions of the university, the university and rising needs, and the university and its new responsibilities. The author cautions against the formulation of judgments that are definitive in nature or claim universal applicability. Generalized conclusions are presented covering contradictions of the university, the sociology of the university, the university and violence, university freedoms and democracy, and the university ability to reform itself. (MJM)

International Association of Universities

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THE UNIVERSITY AND THE NEEDS OF CONTEMPORARY SOCIETY

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THE UNIVERSITY AND THE NEEDS OF CONTEMPORARY SOCIETY

A Report prepared by Professor Henri Janne

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BACKGROUND NOTE

BY IAU SECRETARIAT

From its earliest days the International Association of Universities has been concerned with the relations between universities and the societies around them. Regularly, in one form or another, aspects of this subject have figured in the programmes of its General Conferences. At Istanbul in 1955, at Mexico in 1960 and at Tokyo in 1965, discussions took place on "university education and public service" and, more generally, on the contribution of universities to "economic and cultural development". The Association has decided that these questions should be raised again at its next General Conference, to be held at Montreal in 1970. On this occasion, members of the Association will discuss the theme: *the University and the Needs of Contemporary Society.*

Clearly there is a certain continuity in these matters, but at the same time an evolution in their setting. The element of continuity, it may be mentioned, has nothing ritualistic or obsessional about it. It arises from the actual problems which universities have been facing over the last twenty years. The evolution of the setting, however, needs longer comment, for far more is involved than a new turn of phrase, a verbal re-formulation meant to disguise a rather depressing monotony. At the beginning of the 1950's, the growing importance of knowledge in every field of human activity obliged universities to give particular attention to one of their traditional functions—the education of those who would hold responsible positions in later life. The difficulty was that of preventing an excessive attention to this function from injuring the most fundamental university purpose of all, the free and objective search for truth. Some years later, the scandal of under-development in various parts of the world became a major issue, and was accompanied by growing awareness of how difficult its elimination would be, given the multitude of economic and social and cultural factors which caused and maintained it. The belief that universities could no longer be satisfied with educating people in traditional ways thus became stronger and stronger. They needed to play an active role as initiators and creators in all fields of development, to set up a "development science", and to help to create the conditions for its application throughout entire social systems. In this way—perhaps a rather pragmatic and empirical one, but going far beyond the domain of the natural sciences and technology—the concern with man himself, with the "humanities", came once more to the fore. The promise of a new programmed dynamism and universality seemed to lie ahead for universities.

Despite all the much discussed "explosions" of knowledge and of numbers, despite all the endless administrative difficulties which university expansion created, there was a new kind of optimism. As the leading institutions of knowledge and education, universities seemed to hold the key to the future. Pushed to its extreme, this optimistic view implied that universities could be thought of as small but viable models for complete social systems, in which a major concern would be that of organizing co-operation between the various branches of knowledge and between men of science and learning. Over-simplifying things a little, this could be described as the position in 1965, when the Association's Tokyo General Conference was held.

Since that time, new and critical situations have arisen for the universities of all countries, and particularly in those described as developed ones. After the scandal of under-development, students and others have discovered — or think they have discovered — the scandal of development. They see this as the imprisonment of people within an endless producer-consumer cycle, where the "established order" has taken over and mobilized not only knowledge but the whole of "culture", subtly transforming it into a refined technique of mystification and manipulation.

The rightness or wrongness of such ideas need not be discussed here, but whether they are well-founded or not it has to be admitted that the energy with which they are put forward has stimulated new thought in universities about ambiguities in our present conception of "needs". There are regions in the world where needs have an atrociously obvious reality. There are others where they seem to correspond to little but successes in advertising campaigns, where individual awareness of needs seems merely the result of sales promotion. The tragic poverty of so many countries appeared at one time to have conferred a kind of world-wide sanctity on the expression "the needs of society", but that charm has been broken and some thinkers are now trying almost obsessively to find out exactly who they are who decide what social needs "are", and who then employ the sociological and psychological techniques required to persuade individuals to accept these needs and thus in effect to "have" them.

In the socialist countries, universities are doubtless more closely integrated than elsewhere in general social structures and major conflicts do not seem to arise. Observers from outside, however, often question whether this integration is not accompanied by restrictions on the freedom of intellectual life and whether, in these countries too, the needs which universities serve are not defined from above by bureaucratic procedures.

Thus the tension which used to exist between believers in the "adaptation" of the university and the defenders of its "traditional mission" has now been increased by a new split which sub-divides those who accept that the university should play an active part in social life. There are those who believe it should serve society ; there are those who believe it should change it. For the first, it ought to accelerate a positive and irreversible evolution ; for the second, it ought to oppose an inhuman and reversible evolution. The remark by Marx about Feuerbach is well known — "until now, philosophers have merely interpreted the world ; our business is to change it". If we read "universities" for "philosophers" in this phrase, the protest movements of to-day would doubtless be willing to accept the formula. Those in favour of adapting the university would not entirely contradict it — if the idea of change was that of advancing more quickly in the same direction. Those in favour of maintaining tradi-

tions would doubtless believe that the first task of universities remains that of interpretation.

Things are not as simple as this, however, for everyone knows that interpretation is itself a part both of change and of conservation. It seems clear, in fact, that the university is now the centre of a triple anxiety. Some feel that it does not sufficiently keep its distance with regard to immediate social needs; others believe that it is not yet adequately adapted to them; and still others accuse it of being already subordinated to them, sometimes under the disguise of distance and "neutrality".

All this seems to show that these questions are more difficult than ever and that there is no lack of imagination in the Association's continuing preoccupation with them. It may be stressed again that the theme "the University and the Needs of Contemporary Society" is not the same as "the Contribution of the University to Development". The word "and" leaves room for questions which were not apparent in the theme discussed at Tokyo. "And" does not mean "at the service of". It introduces an opposition or perhaps a dialectic between the two elements of the title. The formulation decided upon by the Administrative Board thus clearly places the problem in its present background.

The Board took a final decision about this theme at its meeting in Sydney in 1968. It also decided to arrange for a background document to be prepared in consultation with a number of academic personalities familiar with situations in the principal regions of the world. Professor Henri Janne was invited to undertake this task. A sociologist, a former Rector of the University of Brussels and a former Minister of Education, very well-informed about international problems, Professor Janne seemed specially qualified to treat all the aspects of a theme so dauntingly wide in its implications. He has himself set out the successive stages of his work. In the preface which Dr. Zurayk has written for the report, full recognition is given to the debt thus incurred by IAU to Professor Janne, and it need not be repeated here. What may be mentioned, however, is that while it plainly indicates the different doctrinal positions involved in the problems treated, Professor Janne's report avoids the pitfalls of over-abstract discussion of a kind which could not be usefully engaged in at a General Conference of the Association. If it may seem highly desirable for universities throughout the world to discuss their role in society with a clear awareness of the problems involved, it cannot be expected that they should agree upon a conservative or reformist or revolutionary attitude, ignoring the facts of their own existence. Each university will try to arrive at such fundamental decisions in relation to its own complicated life. For one thing, universities must function as institutions and even those which are most involved in social criticism cannot wait until "authentic" needs, free of all "manipulation", have been defined, in order to serve them. In any case, even if universities wished to oppose the directions taken by the forecasting of needs, they cannot do without such forecasts. The fact is that all universities are faced with a number of inescapable problems. Professor Janne has clearly highlighted some of them.

Following the Administrative Board's discussion of Professor Janne's report at Helsinki in 1969, it was necessary to single out three main areas around which the discussions of the General Conference could be grouped, since three separate discussion sessions were planned. This choice was difficult to make, in view of the importance of every one of the questions raised in the report. It seemed wise to bear in mind three criteria which

the Board had clarified in the course of its own discussions: a) the urgency and range of the questions raised ; b) the extent to which they could profitably be discussed in a large international gathering ; c) the degree of their relationship to themes with which IAU was specially concerned. With these criteria in mind, together with observations made by members of the Board during their discussions with Professor Janne, it seems possible to organize the Conference discussions around the following three groups of questions:

- *The Socio-economic Functions of the University;*
- *University Governance;*
- *The Reform of University Teaching.*

With regard to all of these, and particulary the last two, the role of students and young teachers must be borne in mind—a matter which needs no underlining.

Obviously, this grouping is partly an arbitrary one. It does not exclude but neither does it directly mention some of the problems raised by Professor Janne ; that of the need for a sociology of the university, for example. Above all, it leaves aside the fundamental problem of research and its organization, except in relation to university management and teaching. This difficulty was frankly faced by the Administrative Board. As Professor Janne pointed out, research is so extensive a field, so directly tied to the scientific policies of governments, that in itself it would be a very wide theme. Everything cannot be discussed at the same time, if superficiality is to be avoided. The proposed programme for the Conference already seems a heavy one. Certainly there will be no opportunity for the university representatives present to tackle all the problems raised by relations between universities and society in general, but the programme as arranged should allow them to gain a wider knowledge of the diversity of these problems in different regions of the world and of their common elements.

Big university assemblies have the merit of releasing their participants for a moment from the particular contexts (often passionately preoccupying but limited) within which they work. They reveal a world-wide panorama in a directly evident way. This revelation may not alter the fundamental choices universities must face, but it can help them to appreciate the relative importance, the specific weight on a world-scale, of one element or factor, which, at home, might seem excessively emphasized or, on the contrary, remote and unreal. Constitutionally, it can be said, universities are pluralist societies. The energy driving them forward often arises from relations between people deeply involved in quite different objectives. As institutions, they can only live through compromises which produce a provisional equilibrium constantly needing renewal. An IAU General Conference reveals the full measure of this pluralism. It also provides a more realistic basis for those inevitably uncomfortable and insecure mutual adaptations which must be continually established and re-established dynamically between their different components. To help society while remaining critical of it is not an easy task. To serve it unquestioningly or to refuse to serve it at all would certainly be simpler—but only in the sense that suicide is sometimes easier than facing the difficulties of life.

At the request of the Association's Administrative Board, President Zurayk has written the Preface which follows, highlighting some of the basic aspects of the theme as treated in the Report.

PREFACE

Ever since universities were established, the mutual relations between them and their societies have continued to engage, in varying degrees and in differing forms, the attention of individuals and groups both within and outside universities. But at no time, it seems, has this attention reached such extent and intensity and aroused such anxiety as is the case today. For, due to a number of "revolutionary" developments which are well indicated in the present volume, these relations are undergoing severe strains and stresses which are causing deep disturbances and torments in university bodies and seriously affecting their societies. No wonder, therefore, that the International Association of Universities, which has always been concerned in the various aspects of this problem, should have decided, through its Administrative Board, to highlight it as one of the two major themes for its Fifth General Conference.

In its introductory note, the Association's secretariat has outlined the process by which the present volume has been prepared and the way the discussion of the theme at the Conference has been envisaged. In this connection, I wish here to emphasize only two points: first, the Association's great indebtedness to Professor Henri Janne, the author of the report, whose eminent intellectual qualities, thorough knowledge and comprehensive outlook have enabled him to handle this complex problem in a masterly way; and, second, the wealth and variety of international experience on which this undertaking has drawn, not only through the author's long and close interest in international higher education and his acquaintance with the published literature, but also through the answers received to his questionnaire from university authorities in various regions of the world, his contacts with the I.A.U. secretariat, the discussions of the theme by the Administrative Board and the Conference Organizing Committee and, finally, the exchange of views between the author and the members of the Board when he presented his draft at the Board's twenty-third meeting in Helsinki, June, 1969.

Throughout this report, Professor Janne has underlined the complexity and diversity of the interactions between universities and societies resulting from the diversity of traditions, resources and socio-economic contexts. He has rightly called for extreme prudence in making general affirmations and cautioned against the formulation of judgments which are definitive in nature or claim universal applicability. With this danger very much in mind, but, at the same time, in the hope of bringing out some of the basic issues underlying this theme and perhaps helping in the preparation

and the conduct of its discussion at the Conference, I shall venture in this Preface to state a few propositions which appear to me to be worthy of note or useful in stimulating meaningful debate.

1. It is fundamental at the start to clarify what is meant by "needs". *A society's "needs" depend upon its socio-economic situation and are part and parcel of its system of values.* They are thus the result of objective as well as of subjective elements, and vary among different societies as well as throughout the different phases of the life of the same society.

While we may, in a certain sense, speak of "contemporary society", this should not imply actual unity or uniformity. Professor Janne has called attention to at least three types of societies within the all-encompassing "contemporary society", broadly: that of the Western industrialized nations, that of the socialist industrialized nations, and that of the developing nations. Variants within these broad types can also be distinguished. It follows that each society must define and clarify for itself what its fundamental needs are, or should be, and must arrange them in a distinct order of priority.

2. One of the basic phenomena of recent times *is the tremendous growth of the needs of every type of society.* As a result of the numerous and interacting "revolutions"—in knowledge and technology, in human aspirations, in political, economic and social relationships, and in other aspects of contemporary life and thought—the needs of societies everywhere are multiplying and spreading to much further limits and at a much faster rate than during any previous period in history. The over-riding challenge which this situation presents to all the peoples of the world is the corresponding growth of human capacity—in trained skill, in educated intelligence and in moral power—to fulfil these needs.

3. Not only are these needs mounting in range and volume, *they are being infused with an acute and widespread sense of urgency.* While this phenomenon is noticeable everywhere, it is particularly evident in the developing nations which are anxiously straining themselves to bridge the gap—the unfortunately widening gap—that lies between them and the industrialized nations in political, military, and technological power and in economic and social welfare.

4. This intensified feeling of urgency *is generating a compelling drive for forcing change.* There is a growing distrust of the inadequacy, at the present historical juncture, of the slow processes of evolution and reformism, and, in contrast, a spreading aspiration for direct, rapid and radical transformation and for the forcible removal of barriers that stand in its way. This is essentially relevant to our particular theme, as it raises the fundamental and increasingly prominent question of the role of the university in inducing change.

5. The deep and far-reaching changes in present-day societies, with the concomitant growth of needs and of peoples' awareness of them, have been the result of many forces working within the societies themselves and in interaction among them. *Universities have been one of the agents causing these changes*, not the only one and perhaps not the most important. It is very obvious that, in the present dynamic interrelationships between universities and societies, the impact of the latter upon the former is much more penetrating and impressive than is the impact in the opposite direction. Thus, it is pertinent and necessary, in analyzing the disturbing problems of modern societies and in seeking out ways of dealing with them, to clearly distinguish between what lies within, and what lies without, the

universities' proper field of action. It is equally pertinent and necessary, in confronting the similarly disturbing problems of universities, to differentiate between those that are due to the universities themselves and can be met by internal improvements in these institutions and those which can only be resolved by the plans and actions of societies in their totalities.

6. At present, *the impact of societies on universities*—in terms of growing needs and of growing demands to satisfy them—*exceeds by far the universities' resources and capacities.* This is an obvious fact, but by no means sufficiently recognized by those responsible for providing the universities' material needs or by public opinion in general. Universities are expected to educate larger and larger masses of students, with proper guidance and counselling, in proliferating specialties but also generally and meaningfully, over an extending period of time and even in a "continuing" fashion throughout life. They are also required to take a leading part in the advancement of knowledge through research, whose opportunities and demands are multiplying day by day. And they are being drawn, either as institutions or through individual faculty members, more actively and widely than ever into the various fields of private endeavour or public service. The growth of their resources, even in the affluent societies, does not in any way keep pace with the growth of the demands upon them.

7. These demands are not only huge in magnitude; they are also not easily reconcilable and, as Professor Janne says, *they subject the universities to inner "contradictory tensions".* There is the tension between the various activities of the university: teaching, research, and direct service to society; between quantitative and qualitative goals, or "the mass" and "the elite"; between general and specialized education; "the two cultures"; teaching and learning; between "basic" and "applied" research, as well as between free "disinterested" inquiry and planned or directed investigation of immediate problems; between social service which is primarily useful for teaching and research, that which is materially remunerative, and that which is principally responsive to society's need; between democracy and efficiency in administration; and a host of other tensions in the activities and in the operation of universities which are tormenting these institutions and constituting a main element in the present crisis of the University.

8. Indeed, *tension* seems to be the over-all feature of the current university situation. *It does not only characterize the internal life of the University; it also dominates its relation with its society.* As far as this latter aspect of the situation is concerned, we note first the contradictory exigencies of "detachment" and of "involvement." Then, assuming the necessity of involvement, we confront the various conflicting visions of the function of the University: as a defender of the established order; as a service agency to meet society's immediate needs; as a critic of society's concepts, needs, institutions and values; and as an agent in the remaking or the "re-forming" of society.

9. These various tensions, both within universities and between them and their societies, *represent serious dangers as well as significant opportunities.* They may, as they are doing now, cause universities deep disturbances and dislocations and place the very survival of this institution at stake, or they may, by summoning forth the highest and best of which universities are capable, lead to new syntheses transcending the contradictions and releasing a vastly enriched and more enriching creativity.

10. This creative response would involve *a genuine mutation of the University.* It would imply a renewed awareness by the University of

its function as a preserver and transmitter of intellectual and spiritual legacies, as a critic of these legacies as well as of society, and as a living microcosm of the order that is to be. It would generate for this institution as a whole a greater degree of inner integrity and unity, a deeper dynamism and a sharper decisiveness in the pursuit of its tasks.

11. This "self-renewal", this realization as Professor Janne says of the "University of awareness and the quest for higher achievement" would entail *a "re-formation" of its teaching and research in both contents and methods.* Such a "re-formation" would be the result of conscious, sustained innovation and experimentation, of the search for deeper and deeper relevance, and of the mutual stimulation and enrichment of the various elements of the educational activity: teaching and research, specialized and general education, science and the humanities, etc.

12. This process would also embody *a persistent urge for the "re-formation" of the governance of the University.* Such an urge would try to seek and to combine positively and creatively the two desired values: on the one hand, legitimate participation by the various elements of the University (faculty, administration, students, alumni, etc.) and on the other, administrative efficiency which is not only a basic condition for the proper running of the institution but also a requirement that is being insistently imposed by the soaring costs of higher education and society's demand for the maximal use of its available resources. The ultimate goal of the whole process would be the achievement of a sense of unity and a spontaneous but determined readiness to give and to share which are, in the last analysis, the source of the strength and creativity of the university community.

13. All of this presupposes one vital condition: *the determination of the University to remain the locus of rational discourse and of deep concern and dedication.* While admitting the legitimacy and the urgency of society's growing needs, the University would dissipate its resources and might indeed end by becoming more harmful than useful to society, if it tried to be everything to everybody. Its particular function is the advancement of knowledge and of human welfare through the cultivation of reason and through free inquiry and dialogue. And as genuine freedom involves responsibility, the pursuit by the University of its fundamental task should always be inspired and sustained by a deep sense of dedication and a compelling urge for relevance. Whenever the University's faith in reason and its yearning for relevance are weakened, and it becomes a prey to the rule of force or to indifference and irresponsibility, it loses not only the secret of its usefulness and the root of its strength but even the support and the justification of its existence.

14. It is through this faith and yearning that the University can become *a truly critical community.* As such, it perpetually questions ideas, needs, values, institutions and all that lies around it, as well as within itself. It does not take refuge in the security of any dogma, ideology or system nor seeks its salvation in any illusory or false sense of stability. It is more radical than any particular revolution, because it submits every new acquisition to the active and responsible contestation of reason; and it is more permanent than any established order, because it fashions and represents the "order" of innovation and creativity.

In aspiring towards this "order" within itself and to its realization in the human community, the University will be fulfilling its own particular function and *responding to a vital, perhaps the most vital, "need" of its society.*

I am afraid these very inadequate remarks fall far short of the requirements of such an important and living theme and of the standard achieved in the excellent treatment of Professor Janne, to whom I wish, in conclusion, to reaffirm the gratitude of IAU. My only hope is that their very inadequacy will help to stimulate discussion in the international university forum which we hope the Fifth General Conference will provide, and that this discussion will render its unique and timely contribution to the dynamic process of dialogue which should remain alive within every university, among universities, and between universities and societies. For it is this very process that constitutes the enduring, yet progressive, essence of the University.

Constantine K. Zurayk,
President,
International Association
of Universities.

December, 1969.

THE UNIVERSITY AND THE NEEDS OF CONTEMPORARY SOCIETY

Translated from the French

REPORT
BY
PROFESSOR HENRI JANNE

AUTHOR'S NOTE

An attempt has been made in this report to bring together the basic facts underlying the problems involved and to define the questions they raise. No doubt some conclusions and solutions are indicated, but more in an interrogative form than as positive suggestions. In the last analysis, it will naturally be for the Conference and its various organs to make a critical choice and, particularly, to decide to what extent they deem it useful or possible to commit themselves.

It goes without saying that this report inevitably contains gaps and that the same treatment, qualitatively or quantitatively, has not been devoted to all points. The complexity of the university institution in itself, the no less great complexity of the technical, economic, social and cultural needs which it is called upon to meet, the differences in problems depending on the types of societies in which the universities find themselves (broadly, at least three: the Western industrialized countries, the socialist industrialized countries and the developing countries), not to speak of the diversity of regional conditions, lags in development and national peculiarities, will give a fair idea of the difficulty of the undertaking and of the unavoidable shortcomings of the report. The author apologizes for these in advance.

He would like to extend his thanks to several distinguished university authorities who have been kind enough to reply to the questionnaire (see Annex I) *which was prepared in order to obtain material for this report.*

They are: Dr. C.D. Deshmukh, Life President of the India International Centre, New Delhi, Former Vice-Chancellor of the University of Delhi; Dr. N. Ohama, Former President of Waseda University, Tokyo; Dr. A.P. Kapitsa, Dean of the Faculty of Geography of the University of Moscow; Professor Seydou Sy, Dean of the Faculty of Law and Economics of the University of Dakar; Dr. M.A. Soliman, Vice-Rector for Research and Graduate Studies, University of Cairo; Dr. Per Stjernsquist, Rector of the University of Lund; Dr. O. Meredith Wilson, Director of the Center for Advanced Study in the Behavioral Sciences, Stanford University.

I also thank Dr. Castellanos, of the secretariat of the Union of Universities of Latin America, for the statistical data which he provided. I am also grateful to Dr. A.H. Halsey, Chairman of the Department of Social and Administrative Studies of the University of Oxford, who sent the text of a study which provides interesting details and reflections on the situation in the United Kingdom, and to Professor E.M. Sergeev, Pro-Rector of the University of Moscow, for a letter in which he defined the characteristics of the Soviet universities.

I would also like to express my gratitude to Mr. H.M.R. Keyes, Secretary-General of the International Association of Universities, and to his staff, for the guidance and background information given during talks in Paris about the preparation of the present report and also of the questionnaire.

I

SOME PAST AND PRESENT CONCEPTIONS OF THE UNIVERSITY

The Traditional Function of the University.

Inherited from ancient Greek and Roman institutions for philosophical research and teaching, universities assumed their specific form in the religious context of the Christian West and the Islamic East. Right away and in an unbroken continuum in time, but with unproductive periods, they devoted themselves to the communication, explanation and teaching of theoretical knowledge (the "studium generale" of the Middle Ages), *embracing it as a whole.*

On the other hand, and from the outset, the university was established as a community of "scholars" and students, tending to administer itself independently.

The emphasis was thus placed rather on the transmission and, at best, the elucidation—even when quite subtle—of a legacy of "constituted truth" than on research, rather on the universal and cultural nature of knowledge than on its specialization and its practical uses, rather on the autonomy (going as far as extraterritoriality) of the university than on its role in society and on the services it could perform for society.

These features—universality, community, immunity—have left a lasting imprint (to varying degrees, it is true) on the very idea of the university. And this is the case whatever may have been the evolution or the revolution in some universities in modern times. We have here a tradition—with its own concomitant style—which influences any such institution, even a new one, as soon as it lays claim to the title of university.

The Nineteenth Century University.

The key factor of modern history is quite clearly the industrial revolution. The traditional university, in its function as a transmitter of knowledge, had necessarily to change, since knowledge itself was changing in meaning and content, and since the role of men with higher education was becoming different in an industrialized society from what it had been in an *ancien régime* society.

A new culture required new *élites*. New methods of production called for new knowledge and skills.

A synopsis of concepts of the university in a table prepared by Jacques Drèze and Jean Debelle is reproduced below (1). We shall give, however, our own interpretation of this table, which differs somewhat from the views of the authors, the quality and results of whose work we gladly emphasize.

It will be seen that, while following a line which always maintains some common features, the concepts of the university vary according to the societies in which they originate and according to the period in which they developed and took concrete shape.

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(1) *Conceptions de l'Université*. Fondation Industrie-Université. Institut Administration-Université, Bruxelles 1966, p. 7.

SYNOPTIC TABLE OF THE FIVE CONCEPTS

	Part One: IDEALISTIC CONCEPTS			Part Two: UTILITARIAN CONCEPTS	
Chapter	I	II	III	IV	V
	An Environment for Education	A Community of Research Scholars	A Centre of Progress	An Intellectual Mould	A Factor of Production
Principal Author	J. H. Newman	K. Jaspers	A. N. Whitehead	Napoleon	Council of Ministers, USSR
Purpose Served	Individual thirst for knowledge	Mankind's search for truth	Society's desire for progress	Political stability of the state	Building of a communist society
General Concept	General and liberal-education in the context of universal knowledge	Unity of teaching and research within the universe of the sciences	Symbiosis of teaching and research in the service of creative imagination	Uniform professional training by an organized teaching corporation	Functional instrument of professional and political education
Principles of Organization	— a pedagogy of intellectual development	— a clear-cut faculty organization	— a creative academic staff	— an administrative hierarchy	— a controlled regulation of the supply of graduates
	— residence and tutorial system	— academic freedom	— students able to apply general principles	— uniform curricula	— involvement of all the productive forces of the nation
Conclusions with regard to the problem of the masses	A diversified network of institutions of higher education within which the universities retain their unique character.			An official and uniform network for the masses and an élite	Adaptation of numbers to needs of the economy and diversification of institutions.

The Napoleonic University.

Of the five concepts, the oldest is the Napoleonic one, which later became that of Modern France. It represents a sharp break with the traditional idea which we have defined above. To be sure, it keeps the ideas of universality, of the dissemination of a body constituted knowledge and of a community experienced in the form of a teaching corporation of the original concept. The break is marked by the elimination of all autonomy, and by the university's being placed under the wing of the state ; the university is also put in the service of the régime to supply it—made to order, as it were—with an *élite* caste in the same ideological mould. Such is the meaning of the establishment of the imperial university by the law of May 10, 1806.

The structures of this university have outlived the Empire and have kept, until the present French crisis, their essential principles and characteristics, toned down and "liberalized", however, as regards the actual influence of the faculties, reorganized in a multiplicity of universities by the law of 1896, and the freedom of speech granted to teachers. This type of higher education, which obviously includes the "grandes écoles" of like origin, is the product of the strong and centralized state of the French bourgeoisie, whether it be, depending on circumstances, Jacobin, Napoleonic or Republican. It is designed to provide cultural and professional training for the bourgeois leaders which this class society requires. In fact, the homogeneity and the severity of the educational system gradually diminished with the democratization of the Republic and the broadened base of student recruitment, at the same time as the realities of social classes became less acute without disappearing completely.

The example of the Napoleonic university suggests that every type of university is a reflection of the value-system of society at large, and that the stronger the state happens to be, the more consciously and the more markedly the university itself is the instrument of society.

The German University.

The second oldest concept—it is, so to speak, contemporary with the preceding one—is the German one: the university considered as a community of researchers. Its underlying principles were developed by the new German philosophy:

— Kant.
The Dispute of the Faculties 1798.
— Schelling.
Lectures on the Method of University Studies 1802/1803.
— Fichte.
The Nature of the Scholar and his place in the realm of freedom, 1805.
In 1807, preparation of a plan for an institution of higher learning in Berlin.
— H. Steffens.
Lectures on the concept of universities 1808/1809.
— F. Schleiermacher.
Occasional reflections on the German concept of universities, 1809 (1).

Here it is important to place this trend of thought in its exact political context. Germany was more or less completely under French occupation

(1) Bibliographical details taken from J. Dreze and J. Debelle, op. cit. p. 101.

or protectorate ; but it was becoming aware of its identity and tended to assert itself as against the dominant French culture and aspired to national freedom. Youth as a whole and the intelligentsia took up the cudgels for this nationalism. Contrary to the Napoleonic reaction of refusing any autonomy to the new university, the sharply contrasting attitude of the German philosophers was to make the university the home of "academic freedom". Nevertheless, in their view, the university was to contribute to the freedom of the emerging nation: in the numerous German states, language and science were to be factors making for unification. Here we are speaking of science based—as was the case in ancient Greece—on a philosophical synthesis of the data of the natural sciences, which should be developed accordingly. This trend of thought, which became immediately topical because it coincided with a particular stage in history, was taken up again, adapted and elaborated by K. Jaspers, in various studies from 1923 to 1961. It provides a present-day outlook on the university conceived as a community of research scholars devoted to the search for truth creating *by this very activity* the only pedagogical approach suitable for the education of an *élite*. The unity of research and teaching constitutes, indeed, the key to this concept.

But in 1810 Germany was to benefit from the work of an extraordinary man: Wilhelm von Humboldt, founder of the University of Berlin (1) and later a leading figure in the organization of the University of Göttingen according to the ideas of the philosophers, but with special emphasis placed on the sciences and the methods of scholarship which won fame for the German university. No doubt Humboldt's devotion to the values of freedom in the university is not unrelated to the authoritarian nature of the Prussian State, theoretically dangerous to the development of science and culture. Once again, the university, while proclaiming itself universal, appears as a political and cultural product of the society in which it originates. This ambivalence between what is universally human and what is peculiarly national is a sociological characteristic of the university institution. It bears witness at the same time to its unity and to its diversity, to its "ecumenism" and to its cultural specificity.

The English University.

The third oldest concept is that of the university as "environment for the education of an *élite*". In fact, although readapted to its time, this concept is the one which conforms most to the traditional function, whose principles it follows closely on the whole. Its theory was stated by John Henry Newman, who had considerable influence in Great Britain. It may be dated from 1852, year of the publication of his collected lectures on the subject (2). "The concept adopted in these lectures", he says, "is the following: the university is a place for the teaching of universal knowledge. This implies that its purpose is... the dissemination and the communication of knowledge rather than its advancement. If the purpose of a university were philosophical and scientific discovery, I do not see why it should have students". One could not be more orthodoxly faithful to the tradition prevailing before industrialization. The table of J. Drèze and J. Debelle

(1) Unfinished Memorandum: *The internal and external organization of secondary scientific schools in Berlin, 1809/1810.*

(2) Year of the first edition of the influential work: *The Idea of a University.*

characterizes this concept most aptly on the basis of quotations from Newman himself.

Once again, we must note that the social and cultural context in which Newman's thought developed provides a convincing explanation of its background.

Born in 1801, he experienced a religious vocation when he was only 15. He studied at Oxford for five years and after graduation was ordained as a minister of the Anglican Church in 1834. In 1845 he was converted to Roman Catholicism and later became a cardinal.

The Church of England, as is known, basically does not depart much from Catholic doctrines. In fact, it represents its schismatic and national version; of course, as a result of this, it has its own cultural atmosphere.

It is therefore not surprising that Newman's opinions concerning the university, beginning with their slow maturation during his Anglican period, coincide with the ideas of present-day Catholic thinkers who have the same intransigent concern for Christian renewal. Jacques Maritain thus writes in 1943 (1): "According to the nature of things, the purpose of universities is to teach youth and not to produce endless books, articles and contributions or to make some scientific, philosophical or artistic discovery" (2). This position was also that of Oxford, under Anglican domination at the time and embodying the English cultural tradition of which it was historically one of the most active and leading centres. Although more and more open, after the industrial revolution, to middle-class and poor students holding scholarships, Oxford remained the place where an aristocracy was educated to take up leading positions in all the professions and especially in public life. Less emphasis was placed on training philosophers, scholars and scientists than on men interested in Parliament, the Civil Service and public administration in the colonies and dominions. A. Flexner, from whom we take these observations, had obtained the following reply from a member of Cambridge University whom he had asked to define the difference between the two universities: "There are perhaps two kinds of knowledge—exact knowledge and the knowledge of values—Cambridge stands mainly for the former, Oxford mainly for the latter..." (3). It is clear, however, that the new requirements of our times have led to the same development of the sciences in the two universities and that progress in the social sciences has also produced in both places a new approach to value judgements. It remains nonetheless true that, in the XIX century, Oxford considered itself essentially an institution for education and teaching in the university tradition of Western history (4).

Thus the circle is completed: Oxford tradition, needs of English society industrialized under the leadership of an aristocratically—inclined ruling class, value judgements of the Anglican school or of Catholicism applied to England—everything contributes to the continuing adaptation of the university tradition to the need for educating a specifically national ruling *élite* which is expressed in the stereotype of *the gentleman*.

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(1) Quoted from J. Drèze and J. Debelle, *op. cit.*, p. 13.

(2) *Education at the Crossroads*. Yale Univ. Press, 1943, p. 84.

(3) *Universities, American, English, German*. Oxford Univ. Press, New York, 1930, pp. 266-277.

(4) In this respect, J. Drèze and J. Debelle quote conclusive evidence. Cf. *op. cit.*, p. 13.

It should be further noted that the French and British concepts of the university were introduced in the colonies and protectorates of the two powers, and that this took place in many cases even when institutions of higher learning were established *after* the proclamation of independence... It was in this way that Indian universities were patterned on the British model and that the University of Dakar was completely French in status until 1957 (1).

As a general conclusion... "The development of the university is bound up with that of society. The traditional concept of the university clearly shows that this institution is integrated in a system of values, that it is part of the cultural heritage of society" (2). But here the word "traditional" means "before 1940" (and, of course, what remains of "tradition" after the war)...

Contemporary Conceptions of the University.

It goes without saying—we have, moreover, pointed this out—that the French, German and British universities have constantly adapted themselves or, at least, tried to adapt themselves to the new requirements brought about by the development of science and technology, to the changes in the needs of society for trained manpower and specialists, and to the increased social demand of young people wishing to enter the university.

The summary table prepared by J. Drèze and J. Debelle further includes two concepts of the university which have become prominent in modern times: the American and Soviet concepts. We shall see that they too are the typical product of their respective societies.

The American University.

A.N. Whitehead was the influential theoretician of the American university and it still draws intellectual sustenance mainly from his ideas (3). Whitehead's career started first at Cambridge in England and continued at Harvard in the United States. He considers the university as a centre of progress based on the symbiosis of research and teaching, but typically oriented towards action and not towards "knowledge" as in von Humboldt's university.

For Whitehead, the instrument of progress is the imagination of a creative teaching body which inculcates its habit of mind and transmits its learning to active students.

Within the ideology of "service" which characterizes the "American way of life", influenced by Protestantism and the pioneer spirit, the progressive action of the universities is in the service of the nation. Whitehead writes: "The growth of the universities—in number, in size and in organic complexity—conceals a latent danger of destruction of the very basis of their effectiveness if there is inadequate understanding of those primordial tasks which they must fulfill for the benefit of the nation" (4). As for teaching methods: "Students are living beings and the purpose of education is to stimulate and guide their autonomous development" (5). As regards university administration, Whitehead favours complete autonomy.

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(1) Reply to the author's questionnaire by Professor Seydou Sy, Dean of the Faculty of Law and Economics (University of Dakar).

(2) See para. 30 of the *Final Report* of the *Round Table on the Nature and Role of Higher Education in Modern Society* (Paris, 17-20 September 1968, Unesco).

(3) See *The Aims of Education*. Williams and Norgate, London, 1929.

(4) *Whitehead, op. cit.*, p. 136.

(5) *Whitehead, op. cit.*, p. v.

Although properly classified by J. Drèze and J. Debelle as belonging to "idealistic" concepts of the university, the underlying utilitarianism of this approach must be recognized, due, as we have seen, to the very essence of American culture in general. The society represented by the term "nation" is here neither the state nor a ruling social class, but the "community" in the broadest sense. The notion of the university is aristocratic only in the sense—though to a marked degree—that there are family traditions from generation to generation of attending the same well-known university: the "alumni" from father to son constitute clans jealous of their "distinction" and who base their social influence largely on this distinction.

It will be seen below how much the recent demands of American society on the university contribute to integrating it more and more, to making it more and more dependent on the overall situation and policy of the Government.

The Soviet University.

The other contemporary concept of the university is the Soviet one. The summary table aptly characterizes its essential features: the university is viewed here as a "factor of production"; in that respect, admittedly, it is "utilitarian", but its final purpose is the building of a communist society and, in this respect, it is "idealistic" because its objective is based on "values".

The 1961 law on higher education in the USSR defines the objectives of universities and other institutions of higher learning (1) in seven points:

1. To train highly skilled specialists, educated in the spirit of Marxism-Leninism, well aware of the most recent scientific and technological achievements at home and abroad as well as of the practical aspects of production, capable of making the maximum use of modern technology and of inventing that of the future.
2. To carry out successfully research which will contribute to solving the problems involved in the building of communism.
3. To produce textbooks and teaching material of high quality.
4. To train teachers and research workers.
5. To provide advanced training for specialists, graduates of higher education working in the various branches of the national economy, the arts, education and the health services.
6. To disseminate scientific and political knowledge among the population.
7. To study problems connected with the employment of graduates and with the improvement of their training.

Prokofiev (2) writes: "Higher Education in the USSR is closely linked to the national economy and expresses the processes which are being carried out there" (3). All educational institutions have their role and their objectives in this connection laid down by the development plans of the

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(1) Institutions responsible for training in specialized professions (agronomy, medicine, etc...); they are at the same level as the universities.

(2) Articles by *M.A. Prokofiev, M.G. Tchilikine and S.I. Tioulpanov* in "*Higher Education in the USSR*" (Education Studies and Documents 39, UNESCO, Paris, 1962).

(3) To use Professor Kapitsa's words from his reply to the questionnaire: "The rapid development of higher education in the USSR during the 1930's, and even more so in the post-war period, was associated with the urgent needs of the national economy as well as with the development of science and education. These same factors have also determined the proportion of students in the exact and natural sciences in relation to students in the social sciences and humanities". Excerpts from a letter from Pro-Rector Sergeev regarding these particular points are also quoted in this report.

country. The university is a reflection as well as a key factor of Soviet society. This "situation" of the university in the very midst of the social system, even if it includes functional processes of decentralization, is incompatible with statutory autonomy for the institutions. Planning makes it possible to determine the exact requirements for specialists for each annual period and to organize admissions in such a way as to meet these requirements with an adequate number of graduates. Individual freedom of choice of a course of study is limited only by the selection at the time of admission.

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A study of the concepts of the university shows that this institution occupies a central, non-marginal position in the social context. Even if its statute is autonomous, absolutely independent of the state, it is more or less directly and more or less consciously the instrument of the overall value system (for example, a religion) of a ruling social class or of the state, whether the latter is democratically controlled or not. In any event, there is a tension—albeit a latent one—between the university's need for functional independence and the state's need for control. Independence is greater the more the recognized function of the university is seen to consist of the transmission of *established* knowledge ; as soon as this knowledge is viewed as evolving and based on research, the greater the amount and the means of research, the more the control of the state is strengthened. This control tends to become preponderant as soon as the function of the university no longer resides essentially in the transmission of knowledge but rather in the university's participation in maintaining economic equilibrium and development. But, in fact, are we not dealing here with the opposition between two methods of economic development, one carried out by the state, the other by initiatives which consider state intervention, theoretically at least, as an inhibiting factor ? This opposition has already been found even in certain situations in the Socialist countries. It is met with in the Western economies. In reality, the two methods are complementary... In this respect we may quote Alain Touraine: "These two complementary oppositions, that of the state breaking down the inertia of society, that of economic progress colliding with the administrative state, betray the deeper opposition of two methods of development, since the former recalls the Soviet model while the latter is close to the American model" (1). *Obviously, the status of universities is inevitably different depending on the method of development of society.* In particular, total autonomy is inconceivable in a developing country, where the fundamental factor of economic growth depends objectively on the deliberate action of the state against the natural resistance of traditional structures, values and mentalities.

In the final analysis, the university is a microcosm which expresses how knowledge and culture are integrated in a given society and with what ends in view.

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(1) The periodical "*Prospective*", No 14, *Education et Société*, Presses Universitaires de France, Paris, 1967, p. 50.

The university concepts of Western Europe, which were already experiencing difficulties of application and adaptation, particularly because the national framework appears more and more inadequate in its means and its dimensions, but also the American and Soviet concepts have been faced since the Second World War, especially since the 1950's, with requirements which are new either by their scale (or their "acceleration") or by their at least partly unprecedented qualitative aspects.

It is this point—the most "topical" of our report—which we shall now endeavour to clarify.

II

THE UNIVERSITY AND RISING NEEDS

1. *Rapid Growth of Student Enrolments.*

It is a well-known fact that the influx of students admitted to the university is constantly increasing. Even where positive or negative demographic factors are at work, this movement is to be explained mainly by the pressure of "social demand", which is expressed in a gradual democratization of higher education. If the growth in the number of final degrees granted remains generally less than proportional to the growth in admissions (1), it is nonetheless impressive and more significant with respect to the immediate nature of its social, economic and technical consequences...

United States.

In his detailed reply to our questionnaire Dr. Wilson, Director of the Center for Advanced Study in the Behavioral Sciences of Stanford University, notes that for the United States the number of final degrees granted in 1951-52 amounted to 403,088. In 1964-65 this total had risen to 668,110, or an increase of 66 %...

A breakdown of numbers of graduates according to sex shows an increase of 48.5 % for men (412,276 instead of 277,545) and an increase of 103.8% for women (255,834 instead of 125,534).

At the "bachelor" level, the total goes from 331,934 to 539,448, or a 62.5% increase (for men, 41.5%; for women, 107%).

But the higher degree of "master" shows a clearly greater increase: 76% (in 13 years); the figures go from 63,471 in 1951-52 to 112,195 in 1964.65. For men the increase amounts to 75% and for women to 80%. It is thus practically identical.

The overall increase at the "doctor" level (not including medicine) is 114%... Here no breakdown is given for men and women.

It is noteworthy that the percentage increase in final degrees is greater the higher the level of study: 62.5% 76% and 114%. This is a sign of final productivity to be credited to the American system, even if "drop-outs" along the way are numerous, especially at the bachelor level. Furthermore, the participation of women in university studies is a factor accelerating growth in enrolments.

These data may be completed by those given in the *Report of the Carnegie Commission on the Future of Higher Education*, under the chairmanship of Clark Kerr (2). Here is how this excellent study analyzes growth:

- In 1868, 50,000 students; in 1967, about 6 million, *with approximately half of this growth occurring in the last 10 years*; the estimates for 1976 rise to 8 million.
- In 1868, 2% of the age group concerned entered college; to-day the figure is 40% and this percentage continues to rise vigorously.

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(1) Which raises the question of maintaining the "output" of university studies.

(2) *Quality and Equality: New Levels of Federal Responsibility for Higher Education* (December 1968).

— A Gallup poll shows that 97% of American parents today want their children to be able to go to college; there is thus a strong desire to go beyond secondary studies (1).

Union of Soviet Socialist Republics.

The pressure of the student influx as shown by admissions to higher education is also very great in the U.S.S.R. In this connection we reproduce on the next page the table given by Raymond Poignant (2):

(1) *Op. cit.*, pp. 3 and 4.

(2) *Education in the Common Market Countries*. Published by the *Institut Pédagogique National*, Paris, 1965, p. 174.

I. *Number of Students admitted* (in thousands).

II. *% of the average of age-groups of* 17, 18 *and* 19 *years old* (1).

	1940	1950		1956		1959		1961		1963	
	I	I	II	I	II	I	II	I	II	I	II
			%		%		%		%		%
Full-time	154.9	237.5	—	231.2	3.8	227.1	4.6	279.4	5.5	339.0	7.3
Evening Course	6.6		—	32.6	—	63.5	—	93.1	—	118.5	—
Correspondence course	101.9	111.6	—	194.9	—	221.1	—	294.4	—	356.8	—
Total	263.4	349.1	7	458.7	7.2	511.7	12	666.9	20	814.3	17.0
Number of women in the total number of students	58	54	—	51	—	45	—	42	—	—	—

(1) The method of calculation used increases the percentage, since a large part of the newly registered students are in fact older and belong to more numerous age-groups.

If we compare admissions in 1950 and in 1961 (a period of 11 years), they will be seen to have almost doubled, as in the United States for a similar period there from 349,600 to 666,900). It is true that part-time education represents 34.6% of the total in 1950 and 56.5% in 1961, but these forms of education are well-established in the U.S.S.R. and lead to the granting of *normal diplomas*. On the whole 17% of the age groups concerned were admitted to higher education in 1963. In 1967, 40% of these age groups were in this position in the United States: the annual growth rates are very high everywhere, but one may still note a considerable American advance... Mr. Poignant explains the drop in the percentage of women admitted by the lesser importance of the pedagogical institutes and the medical disciplines, in which women constitute a large majority.

Japan.

President Ohama shows clearly in the presentation of his replies to the questionnaire the quantitative pressure the Japanese universities are under: the growth of their numbers of students is, moreover, well known and has resulted in the creation of new universities. One of the replies emphasizes an important aspect of this phenomenon: the absolute number and the percentage of student increase, as it were, in all the disciplines; in Education and in the Humanities the students represent 40%-60% of the total.

The distribution of the students according to Faculties and the disciplines correspond in the main to the needs of society but, in Japan, as in other very technically advanced countries, there is a lack of students in the sciences, especially in applied sciences and in technology. In spite of the large number of graduates, especially women, one notes at all levels a great number of educational posts which are unfilled.

Sweden.

The detailed reply to our questionnaire as prepared by Rector Per Stjernquist of the University of Lund gives us an up-to-date picture of developments in Sweden.

The corresponding tables will be found below.

TOTAL NUMBER OF STUDENTS

Year	Free faculties (1)	Faculties with numerus clausus (2)	Total amount
1950	9,180 (4,999) (4)	7,269	16,449
1955	13,331 (8,694) (4)	8,967	22,298
1960	23,436 (14,763) (4)	11,930	35,366
1965	45,890 (32,001) (4)	19,023	64,913
1967	69,701 (48,900) (4)	22,625	92,326

(1) Refers to the faculties of *theology, law, humanities, social sciences and natural sciences.*

(2) Refers to the faculties of *medicine, dentistry, pharmacy and technology, the studies for Master of business administration, and the so-called university colleges of agriculture.*

NUMBER OF ENTRANTS

Year	Free faculties	Faculties with numerus clausus	Total amount
1950-51	2,116 (1,321) (4)	1,257 (1,510) (3)	3,373
1955-56	3,207 (2,135) (4)	1,341 (1,872) (3)	4,548
1960-61	5,840 (3,516) (4)	1,558 (2,299) (3)	7,398
1965-66	13,249 (9,228) (4)	2,810 (4,097) (3)	16,059
1967-68	21,491 (14,952) (4)	3,260 (4,720) (3)	24,754

To take a recent 10-year period, if we compare 1955-56 and 1965-66, we note an extraordinarily rapid increase in numbers.

Let us confine ourselves to *admissions*.

— Totals : 1955-56 : 4,548)
1965-66 : 16,059)

or a growth of about 250%

— For the *faculties with a numerus clausus*:

1955-56 : 1,341)
1965-66 : 2,810)

or a growth of about 100%

— For "free" faculties:

1955-56 : 3,207)
1965-66 : 13,249)

or a growth of about 313%

In 1950, 5% of the age group went on to higher education, to-day it is 10 to 15%.

(3) The figures within parenthesis indicate the total number of entrants that can be admitted. The number of matriculated students is less than the number of available seats, owing to the fact that many students have to start their studies at the free faculties in order to obtain more credits before they can be admitted at the faculties with numerus clausus.

(4) Refers to the faculties of *humanities and social sciences*.

Belgium.

The Belgian situation confirms the growth noted (1):

Year	Number of students	Progress as compared with 1950
1950	19,258	100 (2)
1955	22,462	116.6
1960	28,101	145.9
1965	40,307	209.3
1967	50,060	259.9

If we take the period 1955-1965, we note an increase from 22,462 to 40,307, or a little less than a doubling of the enrolment, a rate clearly lower than in the case of Sweden, but similar to that of the United States and the U.S.S.R. (doubling in 10 years)—although we must take account of the point of departure which indicates, in Belgium, a lower university enrolment.

Students enrolled for the first time in the first year university course represent 27% of the total number of students enrolled in all university institutions at the same date (3). This percentage shows indirectly the considerable elimination which takes place during the first year.

The estimates are as follows with respect to overall numbers (4) :

Year	Number of students	Progress as compared with 1967
1970	57,000	114
1975	75,000	150
1980	96,000	192

Europe (Unesco Survey).

If a comprehensive view of Europe is desired, reference may be made to the documentation prepared by UNESCO for the *Conference of European Ministers of Education* (both Eastern and Western Europe), (Vienna, November 20-25, 1967) (5).

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(1) See Report of the "Special Committee" of the *Conseil National de la Politique Scientifique*, 1968, p. 47.

(2) In 1900, there were 4,563 students. See *Universitas Belgica*, Communication XLIII (31, XII 1968), by Ed. L. Boné, S.J., Rector of the University Faculties of Notre-Dame de la Paix (Namur), p. 15.

(3) *Op. cit.* (C.N.P.S.), p. 49.

(4) See *ibid.*, p. 51.

(5) *Descriptive Information Document on Access to Higher Education in Europe*, UNESCO, 3, pp. 383 and 384. Tables 7 and 8.

INCREASE IN STUDENT ENROLMENTS IN HIGHER EDUCATION, 1950 to 1965

Country	Mean annual rate of increase			
	1950-1965	1950-1955	1955-1960	1960-1965
Albania[1]	[2]29.9	62.2	14.5	[2]15.5
Austria	4.5	— 6.1	13.7	6.9
Belgium	8.7	12.3	4.0	10.1
Bulgaria[1]	8.8	3.4	8.1	12.5
Cyprus	— [3]4.4	5.3	9.4	—[3]25.1
Czechoslovakia[4]	8.1	9.8	5.6	8.9
Denmark	5.2	— 1.4	6.7	10.6
Finland	7.6	3.3	7.6	12.2
France[5]	7.7	3.2	6.3	14.0
Germany (Fed. Rep.)	5.6	6.9	9.7	4.7
Greece	...	...	7.3	13.5
Hungary	4.6	2.9	— 0.8	11.6
Iceland	[3-6]3.8	[6]3.9	1.3	[2]9.4
Ireland	6.0	4.6	2.4	11.3
Italy	4.9	— 0.9	6.7	9.2
Luxemburg	10.2	— 3.6	13.0	22.8
Malta	9.4	7.6	— 1.5	23.6
Netherlands	5.4	3.0	6.2	7.2
Norway	7.0	— 4.3	11.7	15.4
Poland[1]	4.8	4.7	— 1.2	8.7
Romania[1]	6.2	8.4	— 1.5	12.6
Spain	5.9	2.4	7.0	8.4
Sweden[7]	9.7	8.0	10.3	13.0
Switzerland[7]	[3]4.4	— 0.6	5.9	[2]9.3
Turkey	[2]9.7	8.4	11.9	[3]8.7
U.S.S.R.[1-8]	7.9	8.4	5.1	10.0
Byelorussian S.S.R.[1]	8.1	9.3	3.3	11.9
Ukrainian S.S.R.[1]	[2]8.1	10.1	5.1	[3]9.0
United Kingdom	...	...	7.0	11.0
Yugoslavia	7.7	3.0	15.0	5.5

1. Including evening classes and correspondence courses.
2. Based on 1964.
3. Greek Pedagogical Academy only for 1965.
4. Including courses for workers but not including foreign students.
5. Universities only.
6. Based on 1951.
7. Universities and degree-granting institutions only.
8. Including Byelorussian S.S.R. and Ukrainian S.S.R.

Comparative statistical data on access to higher education in Europe.

NUMBER OF GRADUATES AROUND 1957 AND 1963
AND MEAN ANNUAL RATE OF INCREASE

Country	Number of graduates		Mean annual rate of increase
	1957	1963	
Albania	[1]383	1,350	23.4
Austria	3,058	[2]4,199	6.5
Belgium	9,623	[2]14,475	8.5
Bulgaria[3]	5,783	6,845	2.9
Cyprus	...	...	...
Czechoslovakia[4]	11,810	16,936	4.8
Denmark	3,264	4,510	5.6
Finland	3,508	5,301	7.0
France[5]	19,216	[2]37,611	14.4
Germany (Fed. Rep.)[5]	[6]30,129	36,269	9.7
Greece	5,008	[6]5,391	2.5
Hungary[7]	5,557	6,901	3.5
Iceland	61	70	2.1
Ireland	2,352	[6]3,803	7.1
Italy	20,544	26,114	4.1
Luxemburg	...	...	...
Malta[8]	19	90	29.6
Netherlands	12,097	15,110	3.8
Norway	1,096	1,901	9.6
Poland[9]	18,509	24,868	5.7
Romania	12,047	14,269	2.9
Spain[10]	6,146	6,982	2.1
Sweden	4,371	6,716	7.4
Switzerland	...	...	...
Turkey	4,027	8,115	10.5
U.S.S.R.[9-11]	266,500	331,700	3.7
Byelorussian S.S.R.[11]	7,300	8,400	2.4
Ukrainian S.S.R.[11]	52,400	59,100	2.0
United Kingdom[12]	56,525	80,120	6.0
Yugoslavia	8,426	[13]28,067	22.2

1. Not including graduates from correspondence courses.

2. For 1962.

3. Data refer to first degrees only, not including data relating to post-secondary institutes.

4. Not including foreign students.

5 Not including Fine Arts, data for which are not available.

6. For 1960.

7. Data refer to graduates from day courses only. In addition, there were graduates from evening and correspondence courses.

8. Data refer to the Royal University of Malta only.

9. Including graduates from evening and correspondence courses.

10. Not including postgraduate students, i.e., those who prepared for the doctorate or those who studied in the schools of specialization.

11. Including Byelorussian S.S.R. and Ukrainian S.S.R.

12. Awarded by universities and teacher-training colleges, but only to the more important awards made by establishments of further education. Also, data are not available for the number of higher qualifications obtained through private establishments, correspondence courses, private study, professional apprenticeship schemes, etc.

13. Including diplomas obtained by persons who have completed postgraduate studies.

These tables mention the developing countries of the Mediterranean. An annual average growth rate which is generally very high and of the same order of magnitude as for the most advanced countries will be noted. For example, as regards the table on p. 19, in 1960-65, 13.5% for Greece; whereas France shows 11%; 8.4% for Spain and 11% for the United Kingdom... Save for some striking exceptions, moreover, like the Federal Republic of Germany and Yugoslavia, the rates are higher for the 1960-65 period than for the 1955-60 period.

Let us add some further interesting data for the advanced countries.

NUMBERS OF STUDENTS IN HIGHER EDUCATION AS A PERCENTAGE OF THE 20-24 AGE-GROUP (1)

	United States		Japan		United Kingdom		Fed. Rep. of Germany		France (3)		Italy		Belgium		Netherlands	
	U	NU	U	NU	U	NU	U	NU	U	NU	U	NU	U	NU	U	NU
1960	27.6	1.0	6.8	0.9	6.0	2.6	4.4	1.8	7.9	1.3	6.6	0.2	5.4	3.8	6.1	4.5
1964	32.7	5.5	8.0 (2)	1.3 (2)	7.7	3.6	5.7	2.6	13.4	2.3	9.1	0.3	8.8 (4)	6.0 (4)	7.3	4.7

(1) Taken from « *Quelques problèmes de développement de l'enseignement supérieur en Europe* ». (Colloque d'Anvers, 19-20 septembre 1966) pub. Ministère de l'Éducation Nationale, 1969, p. 321. Contribution by M. Debeauvais.

(2) 1963.

(3) Not counting dual registrations, i.e., students registered both in a university and in a non-university institution.

(4) 1965.

U = university education or equivalent, leading to a first degree or higher.

NU = non-university higher education.

This leads us to the developing world. Here we shall use as "indicators" the data in the replies to our questionnaire for Egypt, India and Senegal. We shall complete them by statistics relating to the countries of Latin America. These data are recent, direct and from authoritative sources.

United Arab Republic.

Without supplying figures, Vice-Rector Soliman mentions the pressure felt by the university, particularly in the sciences, technology and education. He emphasizes the increasing participation of women in university studies.

India.

Dr. Deshmukh, former Vice-Chancellor of the University of Delhi, gives the following information:

— Since 1950, the number of students has quadrupled and exceeds today 1.5 million (to be compared with American figures taking account of the total populations of the two countries).
— Correspondence courses have been introduced now by the establishment of a special section in the University of Delhi which already has 10,000 students; other units will be set up.
— The same is true of evening courses.
— Women continue to be drawn by university studies in even greater numbers: already about 50% in Delhi and Kerala.

Senegal.

Dean Seydou Sy (Faculty of Law and Economics of Dakar) notes:

— From 1950-51 to 1968 the numbers of students at Dakar increased from 140 to 3,917; the threshold of 1,000 was passed in 1958-59.
— The independence of the former territories of French West Africa accelerated the increase:

1958-59 : 1303
1962-63 : 2050
1966-67 : the threshold of 3,000 was passed.

The University as such succeeded the *Institute of Higher Studies* on February 24, 1957.

— It is interesting to note the progress in two specific areas:

Faculty of Medicine and Pharmacy:
1950-51 : 14
1961-62 : 269
1968 : 485
Faculty of Sciences:
1948-49 : 9
1962-63 : 434
1968 : 855.

Four countries in Latin America.

Dr. Castellanos has sent us a Table which illustrates in four countries of this area of the world the increase of the growth of student numbers in the universities. In eight years the multiplying factor has risen from 2 (in the country already more advanced in 1959) to more than 4.

TOTAL STRENGTH OF STUDENTS AT HIGHER LEVEL (UNIVERSITY) 1959-1967

Total of Students Enrolled

	1959	1960	1961	1962	1963	1964	1965	1966	1967
Colombia	20,534	22,181	24,735	26,520	34,038	36,390	43,047	50,795*	59,938*
Mexico	71,524	78,887	88,202	100,519	110,378	116,628	128,078	140,706	150,816
Nicaragua	1,078	1,267	1,705	1,841	2,151	2,464	3,043	3,763	4,604
Peru	12,416*	14,665	16,762	19,990	24,6[illegible]	28,379	34,253	41,346*	52,385*

Note: The figures marked with asterisks are estimates.

Source:

The data relative to Mexico have been established from the figures given by the National Association of Mexican Universities and from the work published by the Union of Universities of Latin America (UDUAL) entitled "Censo Universitario Latinoaméricano, 1962-1965" (Census of Latin American universities).

The data concerning Colombia are extracts from the publication of the Association of Colombian Universities and from "Censo Universitario Latinoaméricano, 1962-1965", published by UDUAL.

The data relative to Nicaragua are extracts from the publication of the National autonomous University of Nicaragua entitled "Student Enrolment, 1960-1967", from "Censo Nicaraguense de la Educacion superior de mayo de 1967" (Census of Nicaraguan higher education, May 1967), and from "Censo Universitario Latinoaméricano, 1962-1965", published by UDUAL.

The data relative to Peru are taken from the publication of the Interuniversity Bureau of Planification of the Interuniversity Council of Peru, entitled "La Universidad peruana y su Desarrollo" (The Peruvian university and its development) and from "Censo Universitario Latinoaméricano, 1962-1965", published by UDUAL.

Consequences of rapid growth of student numbers.

Physical problems.

In the first place the overall growth of the number of students raises purely physical and material problems. The premises become too small to hold students for courses or other specific activities. The inadequacy of their *size* is felt to be more and more serious. To the extent that students are subdivided into groups occupying different premises or into groups which have to follow each other in the same premises, the *number* of these premises becomes insufficient.

The same problem arises for student residences and restaurants. The principle of the individual "room" which provides better conditions for study must very often be sacrificed. Queues in the restaurant and the fact that there are several services take away from meals and discussions at table any atmosphere of relaxation and genuine cultural and human exchange. On the contrary, the meals cause nervousness and frustration. The cultural and sports facilities are crowded and inadequate for the number of students.

But what can be said about libraries, seminars, laboratories? What can we say about the wait to obtain a book essential for the preparation of a course or of a paper?

The needs of the mass of students are poorly catered for. They can only occasionally benefit from really personal advice and guidance. These shortcomings are naturally more or less serious according to the objective relation which exists between the "means" and the "needs".

New universities.

One of the remedies for the situation is obviously the creation of new universities, faculties, colleges or decentralized "junior colleges". A study of the map of higher education shows that such efforts are numerous throughout the world. Here the list of member institutions of the *International Association of Universities* alone is convincing evidence in itself.

In the United Kingdom (1), France, Germany, Netherlands, Sweden, United States, Poland, U.S.S.R., Japan, in Black Africa, throughout the world, new institutions and plans are numerous. Several questions of principle obviously arise in this connection.

— Should complete new universities be established (i.e., sufficiently comprehensive in the variety of disciplines represented) or only specialized units? In particular, would it be possible to consider increasing the number of "junior colleges", designed—exclusively as teaching units—to provide students with their first two years of university training? (2).

— What is the optimum size of a university? British studies set it at 4-5,000 and studies by the European Rectors at 10-12,000... Obviously much depends on the student-teacher ratio and the design of the campus. The approach might be different for a university located in a large city (Columbia, Paris), in an old university town (Oxford, Louvain) or on its own site (Princeton, Duke). These problems deserve further consideration, but on the basis of thorough study.

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(1) During the last ten years the number of universities increased from 24 to 44 (expansion of existing facilities and new institutions). Drawn from the study sent to us by Dr. Halsey.

(2) This latter approach is proposed in a letter by Professor Tortsen Husén.

Financial problems.

In some countries these growing needs are being met in a more appropriate way by efforts at construction, equipment and functional organization. But then the budgetary burden on the universities becomes overwhelming and, however rich a state may be, the problem becomes political. Priorities in needs clash more and more sharply: defence, health, social benefits, education other than university, culture, town and country planning, conservation of resources and protection of nature. The political authorities are often faced with the following dilemma: constantly increasing expenditures or more severe selection of priorities; more taxes or less democracy.

Generally speaking, governments will not or cannot oppose democratic measures and allow expenditures to rise while endeavouring to limit them either at the time when decisions are taken or, more hypocritically, when the time comes to carry them out. This policy leads to more or less long delays in meeting growing needs, which amounts to *never* responding adequately to them. This time-lag is more or less acute, more or less dramatic, according to the particular countries and universities involved.

Countries with complete planning agencies are able to cope more functionally with this phenomenon, but have to resort to a more drastic process of selection for this purpose, since the dilemma of priorities and expenditures is unavoidable. In any case, attempts are never made to reduce the funds allocated to higher education (this last point is explicitly stated in the letter from Pro-Rector Sergeev of the University of Moscow).

Problems of the effect of quantity on the quality of education.

In any event, the rapid increase in numbers—assuming that the financial problem has been solved— exercises a pressure on things and on men which constitutes a threat to the *quality* of education. The UNESCO Round Table (1) expressed this concern in the following terms: "The democratization of access to higher education must not, if it occurs rapidly as a progressive reform effort to meet an increased social demand, bring about a lowering in the quality of education provided by the university. The shortage of teachers, the lowering of their qualifications in case of mass recruitment, the inadequacy of premises and teaching materials do constitute threats in this respect. In addition, the university is a traditional institution which lags behind the rapid development of modern society. A dehumanization of the institution may come about and with it a deterioration in human relations to the detriment of the students".

Overall effect of the student protest movement (contestation).

This tension, this inadequacy, added to the "mass" atmosphere created in many universities, has made the students realize the explosive force they might constitute in facing an institution which is unusually vulnerable in the organic weakness of its status, made up of a mixture of prestige and persuasion, but lacking all means of physical coercion. This situation was to provide an opportunity for all forms of protest, indeed it even

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(1) *Op. cit.* (UNESCO ED/CS/261.5), § 24.

encouraged them (1). Protest *(contestation)*, its disorders, the active or passive resistance of the students to systems of education and systems of values (a "culture") which they themselves condemn or see challenged within the university itself, contribute further to reduce *quality*, already impaired by the vast growth of numbers. The ensuing agitation and disorder are hardly favourable to education, study and research (2).

Problems created by the heterogeneous background of the students.

Another essential aspect is to be found in the fact that the student body not only becomes a "mass", but is no longer socially and culturally homogeneous. As the social origin of the students becomes more diversified and as recruitment goes *far beyond* the ruling class of society, the heterogeneous background of the students increases. People no longer speak the same language, "words no longer have the same meaning". The students come from several "subcultures": the cultural content of the university no longer corresponds to the family and social environments which supply the students.

University teaching.

Student audiences are no longer adequately prepared to absorb the monologue of professors trained to express themselves in the "language of ideas" of bourgeois culture. In all good faith, students with a different background do not understand this language of "university discourse". Its meaning escapes them, and they disapprove of an exercise which they consider pointless and artificial (3). This tension reaches its maximum point in the French and Japanese universities; it is acute in most countries of continental Europe; it is less so in the Anglo-Saxon countries and in the U.S.S.R. In fact, the problems of mass enrolments and democratization everywhere involve the problem of university teaching methods, either in acute terms or in terms of a continuing reform. This aspect, however, does not appear to be so acute in the United States.

The "mass" phenomenon tends to unhinge relations between teachers and taught, either by its heterogeneity, because these traditional relations assume a monologue, or by its numbers, because these relations assume small groups of participants. The democratization of these relations is called for more or less vigorously, but to the extent that this is achieved, *it does not necessarily increase the technical effectiveness* of these relations (their "productivity"). The real cost of the democratization of these relations—desirable in itself—is expressed in the need to have more time (discussion), more staff (individual guidance), more organization (real programming of the process, otherwise there is the chaos of a "bull session"), more work by teachers and students (otherwise you are involved in an

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(1) Here we consider it interesting to mention, in his own words, one of the points made by President Ohama of Waseda University, Tokyo. "On the effectiveness of education and training, and on the operating efficiency of the institution, there are varying repercussions from dissatisfaction to discontent, leading in some cases to conflict with university authority or campus blockade or riots".

(2) The question of protest *(contestation)* will be dealt with as a qualitative factor at greater length below.

(3) See the periodical " *Prospective* ", No 14, already quoted, *J.-Cl. Passeron, La relation pedagogique et le systeme*, pp. 150 and following.

amateur free-for-all). In this respect, the English tutorial system or the American seminar, provide models which seem to overcome the difficulty.

In any case, the mass jeopardizes quality. In addition, it legitimately enforces the claim for democratization and participation in the educational process, but to the extent that this claim is satisfied, quality drops still further *unless the means of action available to teachers are increased* (hence a new cause for increase in expenditure...).

It should be noted here that students coming from culturally underprivileged backgrounds, unlike the "bourgeois" students of the past, do not call for the maximum amount of freedom, but for the maximum amount of educational attention, of "dirigisme" on the part of the teacher, which they feel they need (1). So much so that the demand covered by the concept of "democratization" of methods of university teaching proves finally ambiguous:

— for some, this means that the student must abandon his passive role and finally learn by *himself* in a discussion as spontaneous as possible in which the teacher does not "dictate" the correct answer but leads in an exchange of ideas; what matters is not the teaching method used, but teachers who base their teaching on their own research and their gift for reaching young people;

for others, this means better staffing, more systematic and more individualized attention by teachers "devoting themselves completely to their students"; they want teachers to be appointed above all because of their teaching abilities.

The ambivalence of this demand, this contradiction, must be solved by a compromise, for these needs are not mutually exclusive, but are complementary. But how to proceed? *This seems to us to be an essential subject for pedagogical discussion within the university...*

Problems of management.

Another consequence of the "mass dimensions" of the university is the increased difficulty of problems of management. The university administration is confronted more and more by urgent problems, constantly recurring, the real solution of which can be sought only in long-term policies. This implies using the most modern methods of planning, operational research, accounting, mechanization, in a word, "scientific management" (2). The paradox is that if universities have been setting up any number of teaching and research departments for business administration, it has generally occurred to them only quite recently to apply this competence and "know-how" to their own management. Most often, as a matter of fact, universities have devoted continuing effort to opening new departments for teaching and research and to bringing their curricula up-to-date, but they have not adapted their administration and procedures qualitati-

(1) See *Passeron*, op. cit., p. 168.

(2) The new budgetary technique, known as PPBS in technical terminology *(Planning Programming Budgeting System)* can be used most aptly in the management of the university. It is the very complexity of the management that requires this planned approach. Some experiments of this nature have been made in the U.S.A. and also in Japan. (See also replies from Dr. Ohama to the questionnaire).

vely to deal with mass problems, confining themselves to an almost purely quantitative and generally inadequate expansion of their services... (1).

Development of "intermediate" levels of study.

The democratization of education, by bringing about widely differing levels in student aptitudes, culture and preparation, has finally led to or emphasized a *de facto* and or *de jure* diversification of levels of study in higher education. This diversification really appears as the result of the "way things are".

On the one hand, it means creating *less* demanding areas of study to meet certain needs of society for highly skilled middle-level manpower, and to provide complete education for students who otherwise would have to drop out of the university. On the other hand, it means *more* demanding studies to compensate for the deterioration in the level of the traditional studies, and to provide for the training of the research workers and high-level specialists who are absolutely necessary for the operation and progress of an economy more and more based on science and technology.

Some typical examples:

The UNESCO Round Table noted "that a loss of talent was often due to the absence of intermediate levels" (2). It is recommended, especially in continental Europe, that the "*candidatures*" should lead to a diploma which may be a final degree opening up certain public and private careers. This is the case of the Anglo-Saxon B.A. and B.Sc.: they offer not only the possibility of going on to earn the M.A. or the M.Sc., they constitute an end in themselves. The logical consequence of this reform is to confer university status upon higher technical education which grants diplomas of this intermediate type: engineering technicians, social assistants, medical auxiliaries, etc... The reform might thus, within the university framework, include facilities enabling these "intermediate" graduates to continue, if they so wish, studies at the higher level without losing time.

In this respect, the American universities offer a range of possibilities at the most varied levels. The best-known among them are extremely flexible in this way and provide courses whose requirements, very different in level, meet quite specific vocational needs: library science, commerce (the senior level usually prefers the terms "business administration" or "management"), home economics (reserved for women; now losing popularity), "*Associate* in Science", "*Associate* in Engineering" (new trends), nursing, medical assistants ("Physical therapy", "Medical technology") (3).

In Japan, photography, nursing and television programme production, in particular, are now considered as subjects of university status (4).

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(1) A thorough study of the problems of university administration looked at from the point of view of their purposes (the internal structures specific to the institution, its tasks and external relations) has given rise to an outstanding work: *The Administration of Universities* (Papers of the *International Association of Universities*, N° 8, Paris, 1967, 99 pages). There is no need to repeat here the considerations and conclusions of this study, prepared on a collective basis. It was undertaken by the IAU which brought together in Paris in October 1966 six eminent university authorities for this purpose.

(2) *Op. cit.*, § 22.

(3) *Source:* Dr. Wilson's reply to the questionnaire.

(4) *Source:* Dr. Ohama's reply to the questionnaire.

For France, we may mention the establishment of *University Institutes of Technology* (1) and, for the United Kingdom, the raising of higher technical schools to university status as "Technical Colleges", thanks to appropriate reforms.

In Sweden, a type of combined study, partly in the university and partly in a vocational school, trains a new type of secretary in two years (administration, languages, secretariat techniques). Three years of combined studies in the Faculty of Medicine and the Faculty of Science (basis: chemistry) train assistants for the pharmaceutical industry. One might mention studies in the "protection of the environment", in "international service", and in the "mass media" (2).

Emergence of a higher level.

As for the higher level, Dr. Wilson himself directs the *Center for Advanced Study in the Behavioral Sciences* (at Stanford University, California) which is typically postgraduate and interdisciplinary; it combines pioneering studies and research in an original and dynamic way. These concerns

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(1) In this connection it may be useful to give the definition—very characteristic—of these Institutes. We take it from the Proceedings of the *Antwerp Seminar* (September 1966) devoted to "Some Problems of the Development of Higher Education in Europe" (Belgian Ministry of National Education and Culture), 1969. "The creation of University Institutes of Technology corresponds to the need to supply the economy with the executives and senior technicians which it requires. They will be provided at the same time with a general education and a technical specialization more advanced than that of an engineer, but with a body of general knowledge more extensive than that of the simple technician: the senior technicians educated in the University Institutes of Technology (UIT) will be specially trained to perform functions of technical supervision in production, research and services. Working directly with engineers, research workers and senior administrative, financial or commercial staff, they are intended to fulfil a function which will become increasingly important along with economic and social development, as a result of the acceleration and dissemination of technical progress" (pp. 41 and 42).

"Curriculum content, student recruitment and membership of the faculty will have special characteristics corresponding to the vocational mission of the UIT's. This training will be neither a simplified engineering curriculum nor a mere prolongation of a technician's course".

a) *Conditions for admission*

In principle, admission to the UIT's will be open to students holding the various secondary school diplomas (*baccalauréats*) which are related to the specialty chosen. In addition, a special selection system will make it possible for candidates without secondary school diplomas to be admitted to the UIT's provided they give proof of their ability to profit from this instruction.

b) *Special disciplines taught*

The training of senior technicians will not be confined to special subjects in the industrial sector: it will also include training for administration, finance and business.

The creation of new specialties will be carried out in a very simple way, taking account of the foreseeable requirements of the labour market.

In 1966/67, the first year of existence of the UIT's, there were 7 specialties in the industrial sector and 3 specialties in the tertiary sector.

c) *Organization of instruction*

Lasting two years on a full-time basis, the training provided in the UIT's will combine theoretical instruction with practical training, the latter being made up of practical exercises and in-plant training. This implies a special method for recruiting the staff: it will be selected not only from teachers in higher education, but also from those active in business and industry.

Moreover, the administration of the University Institutes of Technology will have to be based on continuing co-operation between the university and business and industry.

d) *Forecasting enrolments*

The forecasts of the enrolments in the UIT's are based on the estimate of the total enrolment in higher education adopted in the Vth Plan. The latter foresees, for 1972, 750,000 French students in the various forms of education following the *baccalauréat*. The assumption adopted assigns 75 % of this total enrolment to the universities and the *Grandes Ecoles* and 25 % to the University Institutes of Technology. 13 of these Institutes were created for the 1966/67 academic year, but a certain number of pilot experiments had already been launched at the beginning of the 1965 year. 6 new Institutes will be opened at the beginning of the academic year in October 1967; 57 UIT departments will then be in operation, instead of 22 in 1966/67".

(2) Data provided by Rector Stjernquist in reply to our questionnaire.

find expression everywhere by the more or less co-ordinated creation of "third cycle" or "postgraduate" studies, as well as by the up-grading and systematization of doctorates (with thesis) which tend to include a first stage of "professional qualification". These are expressions of the fundamental need to train (on the broader base of selection offered by the democratization of education, and taking account of the threat of deterioration in the average quality of traditional diplomas) an *élite* for specialization and research whose qualitative or numerical inadequacy would jeopardize the economic development of the most advanced countries.

The case of the developing countries.

As regards the creation of intermediate degrees to meet urgent and specific vocational requirements, the universities of the *developing countries* have many opportunities open to them. The case of the *University of Dakar* is an example:

Senegal.

- "As of now the training of graduates to hold middle-level jobs in industry or the local private sector is under way".
- "The University of Dakar follows the method of the *University Institutes of Technology* which for three years have been recruiting 30 young men who had received their *baccalauréat* or who had passed an equivalent examination".
- "Within the framework of the reform under way in the University of Dakar, consideration will be given to changes in structures, curricula and courses which will certainly affect the nature of the diplomas granted. The underlying idea of the reform consists of adapting the privileged educational instrument represented by the university bequeathed by the former administering power to the *real needs* of the African countries. It is thus certain that the new face of the University of Dakar, after the adoption of the reform in structures and courses, will mean the setting up of new disciplines and new combinations of disciplines, thus breaking with the old, outworn model. For example, our concern with the *training of suitable manpower for the promotion of economic and social development* will lead to a new distribution of courses *more concerned with immediate yield than with pure general education*, even if a university worthy of the name cannot sacrifice scientific research and the dissemination of culture to the vocational training of the middle-level and senior personnel required by the economy or the civil service" (our underlining).
- "In addition, it is planned to "confer university status on institutions of higher education which are outside the university" (1).

India.

Similarly, for the Indian universities, Dr. Deshmukh mentions new "degrees" in journalism, business management, home science (for women), credit co-operatives, military science ; he also notes, in particular universities, a broad range of studies in technology or statistics (2).

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(1) This information is derived from the replies to our questionnaire sent by Dean Seydou Sy.

(2) Replies to the questionnaire.

It can be seen that in the developing countries the essential motivation for creating studies at the "intermediate" level is determined more by the objective requirements of development than by the need to cope with an increasing mass of students of different backgrounds, whereas these two motivations overlap in the highly industrialized countries.

If the diversification of levels is in itself a result of the pressure of a heterogeneous mass of students, the way in which it is carried out corresponds to *qualitative* needs peculiar to each society concerned. To this same extent we are departing from the purely quantitative aspect to which we had wanted to confine ourselves in the present section... But we shall return to it.

Summary of conclusions relating to the rapid growth of student enrolments.

In conclusion, the rapid and unprecedented growth of student enrolments has the following consequences:

— More or less marked inadequacy (in rare cases, it is only potential) of buildings, facilities, teaching staffs and social, sports and cultural organizations.

— Where universities make a successful adaptation from this physical point of view, there is a spectacular increase in expenditures.

— Consequently, political competition among the basic priority needs of society (education, defence, health, social benefits, culture, town and country planning, protection of nature and conservation of resources).

— Conflict between the determination to democratize education and the need for choice among priorities determined by the limited funds available.

— Threatened lowering of the average quality of education.

— Creation of a climate of "protest" and awareness by students of the fact that they have become "shock-troops" in society.

— Heterogeneity in culture, background and aptitudes of the students with three effects:

1° impossibility of maintaining traditional relations between teachers and students;

2° contradiction in the needs which arise in this connection (free participation and *dirigisme* of the teachers);

3° diversification of the levels of study (creation of "easier" intermediate levels and of highly-selective advanced levels); for the developing countries, predominating influence of specific "vocational" requirements.

— Physical and technical inadequacy of the university administration, which tends to respond by expanding and modernizing under this pressure.

Such are, as it were, the mechanical, or in any case the functional consequences of the massive increase in student enrolments. They are presented here more as a matter of diagnosis, discussion and evaluation than as firm conclusions. The fact that no single person can fully grasp all the diversified aspects of these situations also means that they must be presented very tentatively.

2. *Rapid growth of the financial burden represented by university education.*

Dialectic of the phenomenon.

Under item 1. above, we noted that the growth in student enrolments and the will for "democratization" stimulated by "social demand" had immediate effects from the financial point of view. This social need of democratization involves highly sensitive political issues. It takes the form of a direct demand for the right of access to the university (institutional aspect) and for adequate physical and educational facilities. The university, under the pressure of the social environment, then turns to the government to obtain the necessary resources. While drawing upon its own resources and making more or less skilfully all the readjustments within its power, the university, faced with the magnitude of the effort, can only call upon the state. Thus the community expresses demands which it addresses to the university, but it has to pay for them itself in the end.

Thus, as we have shown, the problem of priorities arises, but subject to an overriding restriction: *the share of the national product which the political majority is willing to devote to public expenditures as compared with the share for private expenditures.* For one of the paradoxes of consumer society is not the *increasing demand for public services* and infrastructures posited by consumption itself—remember the automobile!—*but the unwillingness to accept the taxation and public investments which these same demands make necessary...* The university is caught in the vice of this dialectic.

Causes of the increase in expenditure.

In fact, the increase in university expenditures is not solely due to the growth in the number of students. It has at least four other causes:

a) requests from the state, defence authorities, industry and from the most varied institutions—all seeking to have a particular university undertake or expand a scientific research programme in specific fields;
b) demands from the economy and the culture calling for new types of training to fill gaps or meet forecasts relating to the structure of the working population;
c) similar demands resulting from the extraordinarily rapid technological development applied in various business and industrial fields; here we come to the demands for "refresher" and "re-training" courses as well as to the university's participation in the process of "continuing education";
d) the increasing cost of research: scientific progress costs more and more by itself and by the diversification of education which it automatically brings about.

These needs of society weigh upon the university and compel it to increase its expenditures, which it cannot do in the long run without turning to the state. But this increase in the financial burden will in turn have consequences *on the university itself.*

Quantitative scope of the phenomenon.

The report of the Carnegie Commission, chaired by Clark Keer (1), already quoted, shows the magnitude of this growth in the United States.

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(1) *Op. cit.*, see pp. 5-9 (Rising costs).

United States.

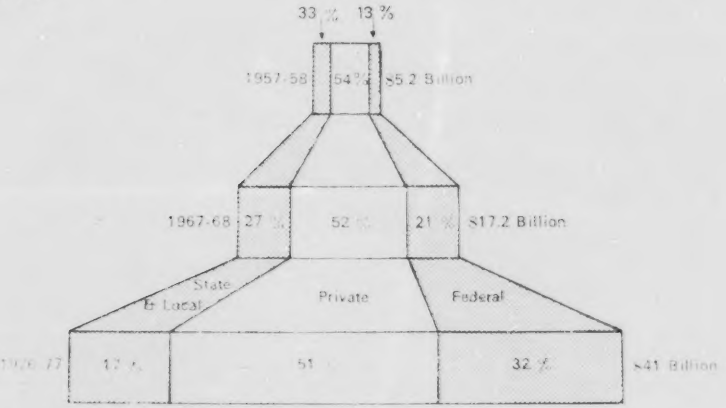
The total amount of university expenditures for higher education went from 5.2 billion dollars in 1957-58 to about 17.2 billion dollars in 1967-69, or an increase of 231% as compared with a growth of 119% in student registrations for the same period. It is estimated that expenditures will amount to about 41 billion dollars in 1976-77 for a forecast of 9 million students (as against 6 million now). Let us note that in 10 years university expenditures have been affected by a multiplying factor of 3.5... and that the growth in expenditure is more than proportional to the increase in the number of students.

In terms of gross national product, these expenditures went from 1% of this product in 1957 to just above 2% in 1967. We must expect a figure of 3% in 1976-77 (1).

It should be noted that the sources of financing are divided in the following way (2):

	1957-1958		1967-1968		1976-1977	
	$ Billions	%	$ Billions	%	$ Billions	%
State and local	1,7	33	4,7	27	7	17
Private	2,8	54	9,0	52	21	51
Federal	0,7	13	3,5	21	13	32
Total	5,2	100	17,2	100	41	100

The following table shows the evolving share of each source of financing (3) :



Private resources thus continue to represent about half of the financing. This is a positive factor with respect to the university's independence from the state, but creates other forms of dependence. It is true that a multiplicity of sources provides *ipso facto* a greater measure of autonomy.

(1) *Op. cit.*, p. 6.
(2) *Ibid.*, p. 8.
(3) *Ibid.*, p. 8.

Belgium.

The Report of the Special Committee of the *National Council for Science Policy* contains an explanatory table in this respect. It is given below (1):

MACRO-ECONOMIC FORECAST OF OPERATING EXPENDITURE, TAKING ACCOUNT OF PRODUCTIVITY

Years	Operating expenditure borne by the State (in millions of francs at 1966 fixed prices)							
	Operating appropriations of state institutions subsidies to other institutions, etc.	Parallel financing (appropriations to promote research)	Total (1 + 2)	Social subsidies	Scholarships	Total (4 + 5)	Grand Total (3 + 6)	% of increase of the grand total as compared with 1966
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1966 ..... (Actual figures)	4,135	392	4,527	129	593	722	5,249	—
1970	5,536	520	6,056	173	828	1,001	7,057	34.4
1975	8,012	742	8,754	251	1,258	1,509	10,263	95.5
1980	11,650	1,066	12,716	365	1,909	2,274	14,990	185.6

United Kingdom.

In the study which he sent us in reply to our questionnaire, Dr. Halsey gives a *table* which confirms the phenomenon of growth considered here:

SOURCES OF UNIVERSITY INCOME

Analysis of University Income for Selected Years since 1920

Year	Total income of universities	Analysis by source in per cent of total income					
		Parliamentary grants	Grants from Local Authorities	Fees	Endowments	Donations and subscriptions	Other sources
	£						
1920-21	3,020,499	33.6	9.3	33.0	11.2	2.7	3.3
1923-24	3,587,366	35.5	12.0	33.6	11.6	2.5	4.8
1928-29	5,174,510	35.9	10.1	27.8	13.9	2.4	6.9
1933-34	5,953,320	35.1	9.2	32.8	13.7	2.4	6.8
1938-39	6,712,067	35.8	9.0	29.8	15.4	2.6	7.4
1946-47	13,043,541	52.7	5.6	23.2	9.3	2.2	7.0
1949-50	22,009,735	63.9	4.6	17.7	5.7	1.7	6.4
1953-54	31,112,024	70.5	3.6	12.0	4.3	1.6	8.0
1955-56	36,894,000	72.7	3.1	10.8	3.8	0.9	8.7
1961-62	74,113,000	76.5	2.1	9.0	2.7	0.9	8.9
1966-67	189,183,000	82.7	0.2	7.0	1.4	0.5	7.4

(1) See p. 144.

The rate of growth is extremely rapid: a multiplying factor of about 5 from 1955-56 to 1966-67. It is thus approximately the same as for the United States. It is important to note that the share borne by the state (subsidies voted by Parliament) went from 33.6 % in 1920-21 to 82.7 % today. All the other sources of financing become consequently insignificant. The state's influence on the university cannot fail to assert itself under these circumstances, but the university frees itself thus of the more directly "political" influence of local authorities. The universities' own resources (tuition fees, endowment income, gifts and contributions) which represented 46.9 % in 1920 were reduced in 1966 to less than 9 %. This obviously involves a loss of autonomy, but this observation at this point does not imply that, in the present state of things, the maximum amount of independence is the best way to meet the needs of society and to guarantee the optimum development of the university...

Halsey also notes that investments which amounted to a total (from public and private sources) of less than 30 million pounds for the period 1952-57 were increased to 295 million pounds for 1962-67 (multiplying factor of 10). This is consistent in the context analyzed here.

Developing countries.

These countries are grappling with serious budgetary difficulties, for their national *per capita* income is generally very low, whereas the efforts called for in education are urgent and substantial (1). The specific cost of university education is particularly heavy to the extent that the universities strive to reach at least a middling level of quality, taking account of the necessity to focus on the most immediate specific needs without aiming too high.

Senegal.

If we take the case of the *University of Dakar*, we see that for an enrolment of some 4,000 students, the operating expenses are close to 2 billion Frs. CFA (about 10 million dollars) a year. This budget seems normal, but it is very heavy when compared with the economic situation of the country. If the burden can be borne it is because France helps out. Dean Seydou Sy, looking ahead at university development, foresees serious financial difficulties "related to the well-known reluctance of governments in this respect" (2)

India.

Dr. Deshmukh points out, as was to be expected, that the universities depend on financing by the state. This financing represents today less than 3 % of the G.N.P.; we have seen that the United States devoted only 2 % in 1967 and that the rate of 3 % will be reached only in 1976-77. This shows the disproportionate effort, if it is compared with that of the richest country in the world, which a developing country must undertake on behalf of its universities. And further it is emphasized that the cost per student varies between 50 and 150 dollars, which seems much too low. *These data alone, however summary they may be, make it perfectly clear that it is essential to approach the whole problem of the economically underprivileged countries and their university needs in an entirely new way.*

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(1) See the outstanding study by *Philip Coombs*. *The World Crisis in Education*. O.U.P., 1968.

(2) Reply to the questionnaire.

Four Latin American countries.

The following Table of the growth of the budgets of university education for the four countries in question shows the considerable effort accomplished in eight years. The coefficients of the increase range from about 3.5 for the country already well advanced in 1959, to more than 6 for a country less advanced.

Consequences.

Finances and autonomy.

The massive increase in the cost of universities implies that it is the state which must shoulder the main burden. The least striking case is that of the United States, where, nevertheless, half of the funds *on the average* (1) come from the Federal and State governments: this half, in the context of the substantial recurrent cost of American university education, is enough to indicate the lines of dependence. For the other parts of the world, the intervention of the state is overwhelmingly preponderant...

This development sharpens the question of the autonomy of the university with respect to the state... It will be recalled that this topic was on the agenda of the Fourth General Conference of the International Association of Universities in Tokyo in 1965. The problem was correctly posed there not only on the basis of principle, *but on the basis of a definition of the main activities for which it is essential that the universities take the decisions themselves.* These definitions were proposed by Sir Hector Hetherington (United Kingdom). Submitted for comment to university authorities in fourteen other countries, they were published in the series *"Papers of the IAU"* (No 7). It is not for us to return to this problem here.

We shall limit ourselves to approaching it from our own perspective. Halsey's study, which analyzes the British discussions of the subject, clearly brings out the substance of the question and shows what is at stake.

The example of Great Britain.

The *University Grants Committee* plays somewhat the role of a "shock-absorber" in this matter. It states as follows: "We are concerned to ensure that a vigorous and creative university life prospers in this country without interference from the government of the day and at the same time to ensure that the tax paying community, represented by Parliament and the Government, gets a proper return for its money in this field of considerable public expenditure".

But even this moderate position is criticized, for example, by Max Beloff who rejects this definition of the U.G.C.'s work because in this case "the U.G.C. is in no sense a body representative of the universities it claims to serve but in fact controls" (2). Beloff, of course, would like the universities to have private funds, but in our opinion even tax provisions favouring gifts could hardly reverse the situation... Moreover, should one be prepar-

(1) It must be emphasized that large universities—among the most famous—live on their own resources (except for research contracts).

(2) *Max Beloff. "British Universities and the Public Purse". Minerva.* Vol. V, No 4, Summer 1967, p. 527.

GENERAL BUDGET ALLOCATED TO HIGHER EDUCATION (UNIVERSITY) 1959-1967

The figures are given in U.S. dollars

	1959	1960	1961	1962	1963	1964	1965	1966	1967
Colombia ..	13,013,726*	14,459,226*	18,074,215	22,190,226	24,959,486	31,641,275	37,459,836	47,502,726*	60,237,815*
Mexico	27,186,885	31,819,842	37,275,527	47,270,887	50,590,061	63,038,827	73,234,875	82,002,001	98,115,207*
Nicaragua ..	318,126*	356,765*	391,285	502,387	866,721	1,015,226	1,213,487	1,528,567*	2,176,428*
Peru	17,286,405*	22,325,185	30,378,518	40,787,787	45,826,296	51,941,666	57,715,714	63,006,250*	76,144,025*

Note: The figures marked with asterisks are estimates.

ed to transfer the "financial power of the electorate taken as a whole" (Halsey) to private individuals, designated by their wealth alone, by allowing them, as it were, to "give" on their own that which they withhold from the public treasury by virtue of tax exemptions, and thereby to acquire influence in the universities?

The question of principle.

What is at stake is whether or not to recognize the fact that the universities are part of an educational system designed to meet the needs of society, whose legitimate expression in a democracy is the political authority. The U.G.C. admits that "the Public, the Press, Parliament show a deep and almost daily concern not simply with student behaviour but *with the place of the universities in discussion about skilled manpower, with the "brain drain" and with the proper adjustment of the provision of university places to student demand at the one end and national needs at the other*" (our underlining).

This view of its role takes the U.G.C. well beyond its task as a "shock-absorber". The concept of autonomy must find its proper place between two extremes: "On the one hand, if each university does that which is right in its own eyes, with no regard for the totality of university provision or for national needs, there is a clear danger that anarchy and licence, under the universally respected name of academic freedom, will result. On the other hand, if the Commission becomes too dirigiste, too tidy-minded and too much concerned with overall planning, there is an equally clear danger that the free growth of academic institutions will be stunted by excessive control. We have not permitted ourselves to be frightened by charges of our becoming more dirigiste."

The case of Sweden.

The problem of autonomy has arisen in exactly the same way in Sweden. There the traditional organization includes autonomous units (in particular, the faculties) in which the teachers' representatives have the power of decision in all academic matters as well as in the use of resources. But the influence of the state has constantly increased in recent years *along with the increase in appropriations for education and research.* In 1964 the Chancellor, who until that time had performed a liaison function between the universities and the state, became an official of the central authority and the chancellery a state administration. Nevertheless, the faculties still retain considerable autonomy. It is intended, however, to hand over their responsibilities in the matter of scientific research to specialized departments (1).

Trends towards agreement.

The autonomy to be maintained — opinions are unanimous on this point — is the academic freedom of teachers and researchers, the freedom of opinion of students and the freedom of decision of the committees which, within the university, have scholarly and educational prerogatives (including appointments and promotions). Autonomy of internal administration — under appropriate control (but this is more controversial) — must

(1) This represents a summary of the replies given to our questionnaire by Rector Stjernquist.

also be very broad. On the contrary, *it does seem that the time has come when the university must subordinate its general policy to the paramount needs of society as defined by the political authorities.*

And yet the matter is not settled: Halsey shows that opinions on this subject are divided among trends which he describes as "liberal", "revolutionary" ("challenging" society), "withdrawing" (right to disinterested study), "donnish" or "parliamentary" (these two latter positions consisting of giving the upper hand either to the faculty or to the politicians). We do not deem it useful to repeat these arguments here.

Socialist countries.

On the opposite hand, the position is clear in the socialist countries. Here is how its context is defined in the report of the UNESCO *Round Table* (1): "... the university plays a particularly important role in a society from which the exploitation of man by man, national and racial oppression and the private ownership of the means of production have been banished. The university in socialist society is closely linked with the masses of the people. It exerts an active influence on all aspects of the economic, cultural, political and social life of the society". The university is thus really *integrated in society* and, consequently, by its very definition, could not have an autonomous policy. Involved in economic life, it is governed by the planning of which it constitutes one factor.

Developing countries.

In a rather similar way, the university in the developing countries finds itself established or expanded as a *factor of development.* The state, under these circumstances, and because of the fact that it bears the entire financial burden — a very heavy one — of this institution, could not consider it otherwise than as an instrument of its policy. The new political leadership is, moreover, often suspicious of the new university *elite* and, in many instances, is not prepared to let the university men handle their own affairs themselves.

Senegal.

Dean Seydou Sy writes concerning the University of Dakar (2): "A reform is under way in methods of teaching and examinations. It is likely that the French *loi d'orientation* will serve in part as a model, even if *the Senegalese reform is essentially aimed at adapting the university to the needs of the African states which are neighbours of Senegal.* Indeed, the idea of the participation of the university community as a whole in the administration of the university has made headway and seems henceforth to be an established fact. On the other hand, the idea of autonomy with respect to the central organs of the state will pose more problems than in France, *for the African states, and Senegal in particular, are reluctant to grant too much freedom to university institutions.* In this respect, administrative, and especially financial, autonomy will be a stumbling-block for the reform" (our underlining). And further: "university freedoms will certainly be interpreted differently, at the risk of upsetting the university community—both students and teachers—".

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(1) Document ED/CS/261.5, § 14.

(2) Reply to the questionnaire.

India.

The position is somewhat different in India, where the British tradition of autonomy of the two old universities remains alive. But, in fact, the institutions fall in line with the policy of the state all the more readily since the governing bodies of many universities include members designated by the state (1). "The University's place as the spearhead of social progress is more and more stressed. But the dangers of utilitarianism are not understood". There could be no better distinction between *the fact* (political alignment) and *the ideal* (concept of the danger of a "utilitarian" policy), the expression of the ambivalence of some of the leading university circles, themselves the product of two prestige-laden cultures. Let us further point out that the inflation of university expenditures has posed the problem of effectiveness and of the need for economies. In this respect the university has become the cynosure of public opinion and is attempting to improve its administration; we have shown the inadequacies of this and although they are not generalized, they are quite widespread.

Summary of conclusions on the increase in costs.

The increase in the financial burden represented by university education has the following consequences:

- The largest share of the burden tends increasingly to be borne by the state (about half in the United States; the total in the socialist countries; more than 3/4 in the other highly industrialized countries; in the developing countries it theoretically bears the entire cost, but there is often "technical assistance" from the former colonial power).
  This trend increases the influence of the state—in the logic of the socialist system the state, organically speaking, is the sole source of influence—but this is expressed, *de jure* and *de facto*, in varying ways in countries with different systems.
- The cases of Great Britain and Sweden show, nevertheless, that the universities in the Western industrialized countries have succeeded in defending the principle of statutory autonomy in academic and scholarly matters; *functionally, and as a consequence of the necessary principle of decentralization, the universities of the socialist countries also enjoy some autonomy.*
- Everywhere in the world, the university tends to subordinate its general policy to the paramount needs of society, as defined by the political authorities (this is inevitable if one considers the increasingly important part which global forecasting plays, technically speaking, in the processes of policy-making).
- The control of the state, under the pressure of public opinion (the "taxpayers") and of political opinion, tends to impose upon the university "economical" standards of administration which are based on "yield".

3. *More rapid development of the research function than of the teaching function within universities.*

As we shall see, this very important point concerns almost exclusively *the highly industrialized countries.* It seems somewhat less acute in the U.S.S.R. and in the socialist countries where the research function has

(1) Summary of the reply by Vice-Chancellor Deshmukh on this point.

developed mainly within the *Academies*. However, the trend in these countries now appears to be in the direction of a substantial increase in university research. Perhaps the problem of changes in the balance of the functions of the university did not affect them so much. The changes had important consequences — some of them positive — but they must nonetheless face the organic problem of the relationship between teaching and research, under circumstances which are perhaps more complex.

Quantitative scope of the problem.

But what is the real magnitude of the phenomenon?

United States.

Let us take first the case of the *United States*, which, according to Daniel Bell, has already entered the "post-industrial" era. The latter is characterized by the fact that scientific research is totally integrated in a coherent institutional system which constitutes the core of state policy. We shall first make use of replies given to our questionnaire by Dr. Wilson, who writes as follows about expenditure on research: "The rate of growth of research in the United States universities has been so rapid that other aspects of university life may have been dislocated". The rate may be illustrated by the following figures:

	Basic Research	Applied Research	Development	Total
1952 (x)	$ 71,078,000	$ 169,454,000	$ 77,340,000	$ 317,872,000
1964 (xx)	815,000,000	577,000,000	334,000,000	1,727,000,000
Increase	1,047 %	240 %	332 %	443 %

In twelve years expenditure on research has been multiplied by a coefficient of more than 5! It may be noted that fundamental research receives the lion's share (multiplying factor about 11) and that the universities' concessions to utilitarian realism (research applied to development) remain limited without, however, appearing marginal.

The size of the effort in absolute terms should be emphasized: $ 1,727,000,000 for 1964.

(x) Federal Funds for Science: I. Federal Funds for Scientific Research and Development at Nonprofit Institutions 1950-1951 and 1951-1952, National Science Foundation, Table D, p. 38.

(xx) Federal Funds for Research, Development, and Other Scientific Activities, Fiscal Years 1963, 1964 and 1965, vol. XIII, National Science Foundation Surveys of Science Resources Series, NSF 65-13.

Federal support for the universities in 1967-68 can be broken down as follows (1):

	$ Billions	%
Research and development	1,45	42
Constructions	0,57	17
Student aid	0,62	18
Institutional support	0,44	13
Other	0,37	10
Total	3,45	100

Funds for research in the universities thus exceed 2 billion dollars. Let us note immediately that by its support the state influences the development of the research function in the university. The result is that 3/4 of university research is financed by the state; this increases to 90% for universities specially involved in research (2).

During the period 1956-1962 this financial support increased by about 25%, annually..., but in 1967 the increase was limited to 2%. The ceiling would thus seem to have been reached, but the Carnegie Commission urges a resumption of the increase in assistance to research (3). It feels that it would be appropriate to follow the rate of growth given below (4), it being understood that a maximum effort should be made to develop departments specializing in the training of research workers:

Year	$ Billions
1970-71	2.00
1971-72	2.30
1972-73	2.62
1973-74	2.96
1974-75	3.32
1975-76	3.68
1976-77	4.05

(1) See the *Report of the Carnegie Commission*, p. 41. These figures do not include Federal funds of 698 million dollars for research centres administered by universities, appropriations of 412 million dollars for veterans' education, appropriations of 409 million dollars for building loans and 266 million dollars for loans to students.

(2) See *ibid.*, p. 39.

(3) *Carnegie Commission*, p. 39.

(4) *Ibid.*, p. 41.

Obviously, the United States is the leader in this respect, but all countries are witnessing a greater or lesser increase in the place occupied by research in their universities.

Other countries.

National budgets for *expenditure on universities* do not show, in most cases, how much is devoted to research. This is often included under departments originally established for teaching purposes. These budgets, in fact, are state budgets and they are not always broken down for each institution into allocations for specific purposes. Only subventions figuring in the budget for science policy and allocated to specific research may be allocated to particular universities. The special nature of federal intervention with regard to research—education in principle the responsibility of the States—explains that it is easier to identify expenditure on research in universities in the United States. To this we may add the efficient organization and statistical discipline of the country. Where information is available on the national science budgets of other countries, a matter with which we are not concerned here, it rarely includes specific information on portions of the national research budget actually spent by the universities, either through their own budgets, or in the form of subsidies, public contracts or otherwise. We must accordingly confine our observations to the basic principles, noting, however, that: the place of research in university activities has continued to grow and more strikingly so the more a country happens to be "advanced"—or if you will, more highly industrialized. This is also true for research in industry.

Japan.

President Ohama stresses the growth of research in the Japanese universities. This change is shown by the rapid rise in the number of researchers in relation to teachers: the number and the role of the research institutes are also increasing. The result of all this is an improvement in the quality of study, especially in the natural sciences and in technology.

Sweden.

Rector Per Stjernquist, in his reply to our questionnaire, emphasizes the links which are necessary between university teaching and research: they are indispensable for the most advanced studies. But the place of *applied* research in the university (including social, economic, educational, medical and town and country planning research) has been challenged for some years now.

Moreover, it is noteworthy because it is in opposition with the general tendency that the admission of large numbers of students to the "open" faculties in recent years has led to *a greater expansion of teaching than of research.* This has given rise to the creation of a new category of academic staff whose *sole duty* is to teach to the exclusion of any research activity: most university education leading to the "first degree" is now entrusted to this category of staff. There is a similar trend in state planning to separate university teaching and research into two distinct activities. Training in certain subjects newly included in the curriculum does not go beyond the "first degree" (see p. 29, the development of "intermediate" levels of study) and therefore constitutes a form of teaching which is not related to research. This separation makes it easier to reach an audience outside the university with these courses. However, a government committee is looking into all these problems.

The trend described above, easily explainable by the force of circumstances, is certainly impressive, for Sweden has been more successful than the other European countries in absorbing the growth of "social demand" for education, and has been able to pursue a policy less subject than that of others to the exigencies of the moment. Its educational planning is conclusive evidence in this respect.

Developing countries.

If we now take the two "test cases" provided by the replies to our questionnaire given by Vice-Chancellor Deshmukh (India) and by Dean Seydou Sy (Senegal), we may conclude that the universities of the developing countries are perfectly aware of the need to develop research.

It goes without saying that, lacking the tradition, the financial means, and sufficient numbers of qualified research workers, these countries are faced with serious difficulties and must scale down their ambitions, which makes the question of "priorities" a crucial problem. These priorities are determined either by conditions favourable to a specific type of research, or by the overriding needs of economic development.

India.

Dr. Deshmukh notes the dissatisfaction of young research workers with the opportunities for advancement in their faculties and he points out that promising workers are easily drawn by better opportunities, particularly in the United States (a deplorable example of the "brain drain"). Research equipment in India is often inadequate and, in spite of the shortcomings in scientific research in the university, relations with non-university laboratories are not well developed. The hope for the future resides in the creation of "Centres of Advanced Studies" by the University Grants Committee; these centres are research oriented and it is clearly understood that they must be linked with teaching.

Senegal.

The situation at Dakar appears to be the following: "Within the university, pure research is concentrated in the IFAN and there are nearly 100 research workers. Here too, financing is from public funds, provided partly by Senegal, partly by France in the form of annual subsidies. Research is conducted in the natural and the human sciences. The faculties also have institutes which carry out research sponsored in part by the state, in part by industry or foreign research institutes such as the C.N.R.S.

Of course, as in any real university, research goes hand in hand with teaching. University and faculty institutes take pride of place in the research effort".

Here too the link between teaching and research is affirmed as a principle. Senegal benefits, moreover, from French co-operation. The structures, however, are somewhat out of place, for they belong to a "Western" system. This has been realized and Dean Seydou Sy goes on to add: "... it would be desirable for the applied research potential of the university to be drawn upon and used to greater advantage both by public bodies and national and especially foreign companies located in the country". Thus, whereas in Sweden consideration is being given to removing applied research from the university, in Senegal the opposite is true. Basically

the university whatever the point of departure– becomes inevitably an expression of the social system. In Senegal, if the university wants to be anything but an "artificial graft", it must strive to be a factor of economic development under the leadership of the state. Nevertheless, it remains a university, and therefore one also reads: "The relations of the university with the government and with the private sector will be reviewed in the light of the conclusions of the reform. The university will be called upon *to pay greater heed to the most urgent concerns of public authorities and of industry and business. But these same groups will have to take greater account of the special character of the university and make the effort needed to understand it*" (our underlining).

The socialist countries.

We have not, as it were, taken into account the socialist countries. In fact, their cultural and technological level postulates an important role for research in the university, although many research centres are organized by and within the Academies. Pro-Rector Sergeev affirms the following principle as being at the bases of the activity of Soviet universities: "The essential value of the university system consists in the structural union of teaching and research".

Consequences.

Dialectic of the development of the university by research, vis-à-vis the state.

A result of the importance assumed by research in the university, whether because of scientific and technical progress in the advanced western societies, of the urgent needs of economic development in the developing countries, or of the objectives set by the Plan in the socialist countries, is an increase in the influence of the state in the university. *But there is everywhere a desire, more or less explicit, to preserve the "identity" of the university, i.e., its autonomy de jure or de facto which is expressed by an independence based on status, custom, prestige, service or technocratic resources.* Moreover, it is almost always a subtle mixture of these permanent cultural features of the institution which ensures its "place" in society, a special place which is readily discerned by the well-informed observer.

The fundamental theorem can probably be stated in the following generalization: *the university cannot play its role in any contemporary society unless it succeeds in harmonizing its theoretical subordination to the needs of society expressed by the political authorities with effective autonomy; without a certain "perspective", a certain "withdrawal" from the power system, its action becomes inevitably sterile.* Such is the sociological theorem which should, in our opinion, be the subject of meditation and discussion. The tension between the opposite poles of "service" and the "free development of knowledge", between "subordination to the power system" and "real independence" defines the very dialectic of university life. The need is for men capable—in any specific situation—of achieving this dynamic equilibrium. And it is research which thus constitutes the touchstone for the adaptation of the university to its social context

Influence of the private sector.

The university is in a similar position with respect to the private sector in the market economies. Since in this case the relations, by their very nature, are more "materialistic", the university is more directly aware

of the fact that its independence may be jeopardized. What is at work here is the reflex of "academic freedom" which has the psychological advantage of making the academic staff involved more sensitive to ethical and professional considerations. The state always cloaks itself in an aura of "the general interest", of "national security", of "the challenge of other regimes", and of "economic development", which makes people less sensitive ethically to losses of independence, although in this case they are more irreversible...

Another aspect: the teaching function of the university appears as the response to specific and individual needs added together *en masse* but *personalized* (it takes the form of "applications" to persons). The research function, on the contrary, appears as the response to collective needs abstractly *depersonalized* into a concept of general interest (it takes the form of *generalizing* applications). This is why the expansion of the research function tends indirectly to integrate the university much more into society at large, although research implies freedom of criticism as a condition of success. But the freedom required for teaching is more *social* in nature, that required for research is more *operational*. A synthesis of these two freedoms in the same person is perhaps the most important characteristic of a true university man...

The relationship between teaching and research.

The development of research activities helps the university theoretically not only to base its teaching on the results of research, but also to make use of its instruments and methodology. But it is necessary to organize this relationship, because the quantitative increase of research tends to lead to the assignment of specialized staff to it and to *isolate* research in the university. What is more, it distracts academics from their teaching function and is thus detrimental to it. How many students have registered in "great" universities to benefit from the teaching of a world-famous professor, only to be disappointed because almost their only contacts were with his assistants, since the professor himself was devoting his time to his original work where he was indispensable and which constituted his real vocation. Many research workers neglect teaching, seeing it as a marginal relaxation or as a burden keeping them away from their main interests. Thus the *quantity* of research appears at first sight to exercise a negative influence on the *quality* of teaching.

But on closer examination this is due primarily to the organic separation of teaching and research structures: the teaching faculties or departments on the one hand, and the research centres and services on the other. On the contrary, the approach which concentrates the teaching load in the hands of a sufficiently large team, also responsible for research, within an institute which closely associates the two activities, offers the following advantages:

- the teachers communicate science *as it is made* and hence provide their students with a genuine initiation to it;
- the students benefit not from a didactic apparatus which is by nature artificial, but from the real tools of research;
- teachers who are also researchers can detect and awaken scholarly talents and vocations;
- the best senior students can help in research and the research assistants, postgraduates and doctoral students can help in teaching;

— the association of teaching with research necessarily opens up the curricula and thus prevents them from becoming rigid and unyielding or encyclopedic;
— the environment itself furnishes an impetus to activity—if only intellectual—and not to passive receptivity.

These first considerations show how a phenomenon, the victim of faulty structures and viewed quantitatively (mechanical effects of the expansion of research), may nevertheless be oriented structurally towards *qualitative* ends. Indeed, the phenomenon in its own somewhat "closed" development is harmful to teaching with which it is in contradictory and competitive tension. Taken, on the contrary, as one of the poles of a synthesis restructuring university activity as a whole, the same phenomenon has a beneficial effect on teaching since it improves its quality. This dialectical process constitutes an important example for other situations. We have already outlined that of the teaching of business administration as related to the administrative tradition of the university... And there are others...

The quarrel of the "Ancients and the Moderns".

The increased importance of research can change the equilibrium and the significance of the traditional opposition within the university between "the humanists" whose minds run to "culture" rather than "science", quality rather than quantification, and "the scientists", whose mode of thought is "science" rather than "culture", quantification rather than "values". This is a new version of the old quarrel between the Ancients and Moderns.

The development of scientific research and its instruments—even as applied to linguistics, econometry, sociology, textual criticism—creates an atmosphere, modes of thought and communication which favour the "Moderns". By contrast, it emphasizes the cultural nature of the humanist approach. It brings out its specific characteristics and thereby underlines its importance. The university should consciously be a *centre of culture* and not only a *centre of science*. It must overcome the ambiguity of activities which claim to be "scientific" without being so. This does not mean that cultural activities may not have their own methods and their rigorous requirements which certainly relate them to science (1), but which should not hide their true essence: values and their relativity. It is here that the *quantity* of research helps to stimulate *qualitative* awareness.

Summary of conclusions concerning the more rapid growth of the research function.

These really take the form of proposals intended to pose the problems rather than to solve them.

They may be summarized as follows:
— On the one hand, the substantial development of the research function in the university disturbs the equilibrium of the functions of the institution and of the structures which embody this equilibrium; on the other hand, it tends to increase the influence of the state, already enhanced by the growing cost of the teaching function (see 2, p. 33).

(1) On this point, the "erudition" of the German university in the XIX century remains a model of *Altertumswissenschaft*, the history of art, philology and philosophy, for example.

— However, there is everywhere a desire, more or less explicit, to maintain the "identity" of the university, i.e., its *de facto* or *de jure* autonomy, which is expressed by an independence based on status, custom, prestige, service and technocratic resources.
— The university cannot play its role in any contemporary society unless it meets the fundamental needs for equilibrium and progress of that society to the extent that these needs depend upon "knowledge", and unless it succeeds in harmonizing its theoretical subordination to the political power structure with effective autonomy; without a certain "perspective", a certain "withdrawal" from the lower system, its action becomes inevitably sterile.
— The influence of the "private sector" as a contractual source of research, being "materialistic" in nature, is more harmful but also more easily detected and less irreversible than that of the state; it constitutes a less important factor.
— The research function, more than the teaching function which is specifically directed more towards individuals than towards society, tends to integrate the university into society at large.
— The magnitude assumed by the research function poses in new terms the problem of the relationship between teaching and research; as this point calls for much qualification, we refer the reader to our discussion and its conclusion, which are to be found earlier in this section.
— Lastly, the new preponderance of research rekindles the quarrel of the Ancients and the Moderns within the university; it creates awareness of the polarization of activities, some, properly speaking, "scientific", the others in fact "cultural" (a term which does not affect the rigour of the methods employed); its end-result is to demonstrate the legitimacy and necessity of both types of activity which are complementary.

III

THE UNIVERSITY AND ITS NEW RESPONSIBILITIES

The *quantitative* aspects of the new demands made by the rapid growth of student numbers, the no less rapid increase in the cost of financing the universities and the disproportionate development of the research function in the universities have been expressed in practice by the upsetting of structures and relations within the institution; they have also reopened the question of the place of the university in society at large. We have shown that these quantitative aspects have also had qualitative consequences.

We must now consider the *qualitative* aspects of the new demands on the university. To be sure, they are not unrelated to the important quantitative trends which we have analyzed, and indeed they sometimes result from them. It is now necessary to define them and to attempt to identify their consequences.

1. *The requirements of economic development.*

General considerations.

We have already shown that the university bears the stamp of its social context and that its growth is necessarily linked with its involvement in the objectives of society. In clear terms, the more important and central a role the university plays in a society, the more it is in the service of that society. As all modern societies wish to achieve optimum economic development in all situations, we must see in what way and how the university contributes to this. The qualitative aspects of the specific requirements which here come into play are of paramount importance.

Szczepanski, in the report which he submitted to the *Conference of European Ministers of Education* (Vienna, November 1967) (1), considers in his conclusion that the essential role of the university is precisely to train, in all fields, specialists capable of promoting the economic development of their country. Let us quote in this respect some characteristic passages from his conclusion (2):

"The concept of an "ideal function of the university" assumes, *inter alia*, the existence of a cause-and-effect relationship between the skills which students acquire at the university and the influence which they will be able to exert after completing their studies on the economic, political, social and cultural development of society... The principle must be firmly laid down that any policy for organizing access to higher education must enable us to make sure that the young people admitted to the university institutions do in fact possess a set of qualities, or rather of aptitudes, likely to make them the best candidates for the performance of the long-term tasks which society has set itself. From the economic and social point of view, the most important task of education is not only to train the desired number of graduates for all sectors of economic and social activity, but also to ensure that they possess the desired knowledge and technical competence, that their

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(1) *Access to Higher Education from the point of view of the present and foreseeable development needs of the community*, UNESCO (ED. 68/D. 38/F. 1968).

(2) See pp. 113 and 114.

motivations are good and that they understand social realities... If educational policy wants to move in the same direction as the economy and discipline effectively the various social and economic forces involved in the educational process, it must revise and readjust its methods on the basis of the realities of economic and social life".

The problem of forecasting, an urgent task.

It is a truism to say that graduates should be trained for the adequate performance of the activities for which they prepare themselves, and the university must seek the best technical means of achieving this ideal. But this is simple only in theory—and Szczepanski is fully aware of this—because in rapidly changing societies, how can one predict the structure of the active population a few years hence, i.e., the exact nature and number of high-level posts it will be necessary to fill in various fields? And even if it were possible, for example, to train appropriate numbers of all the different types of engineer required at the time they start their employment, what can be done to make sure that they are capable of assimilating the scientific and technical changes which will occur in the course of their careers?

The universities are only just beginning to develop operational research, forecasting models and long-term forecasting, and to study the laws of the development of the structures of the active population on the basis of forecasts of technical progress, and they are not yet in a position to reply to these questions. *Their most urgent task should be to take steps to do so...*

The "learning" function, the basis of all education.

But even for professional posts, as at present defined, it appears that the training of engineers—since this is the example chosen—consists in some universities of providing a body of knowledge *which the graduates have not really learned to use.* As a result, they do not relate what they must do in the exercise of their profession with what they have learned in the university. It was Bertrand Schwartz and Francis Viallet who asked the question: "How can we understand the fact... that most engineers who have studied the sciences for six years after the baccalaureate practically never use what they have learned? Should it not be recognized that they did *not* learn how to use knowledge?" (1).

Thus, in addition to the specific question of professional training, there is the problem of the objectives of *all* education and of the appropriate methods for mastering *any* type of intellectual activity... What is the meaning of the function of "learning"? This is much more important than deciding on the content of a course of study (2). The perspective of economic development itself poses very important qualitative problems.

It suggests that an excessive specialization of training (apparently necessary in the present technical context) should have the effect of making any future readaptation difficult. A general basic examining, certainly in

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(1) See the periodical *Prospective*, No. 14, *Education et Société*, Sept. 1967, Presses Universitaires de France, p. 70.

(2) This point has been very well put by Vice-Chancellor Deshmukh, who writes in his reply to our questionnaire: "... education must concentrate on developing the capacity to learn and think and learn. A package of skills and information gets outmoded almost as soon as conferred".

the framework of a technical field broadly defined, would, on the contrary, give the university graduate a wide formation and a capacity for adapting that are essential in the age of rapid change (1).

The "prerequisites" of a specialist training policy.

The prerequisites are the solution of the following questions:

— the preparation of long-term forecasting methods for the active population;
— the knowledge of the laws of economic and technological development in a given context;
— the definition of the objectives of all higher education: what does it mean to "learn" something with a view to applying it?

Thus the simple perspective we have taken as our point of departure already brings out three fundamental problems. Whoever performs this exercise will reach the same conclusions. This was the case of the UNESCO *Round Table* which recommends: "the carrying out of scientific studies in the member states aiming at the preparation of models forecasting the socio-professional structure of society and their use as an instrument of admissions and orientation policy in higher education" (2).

Furthermore, as regards the meaning of the "learning" function, Kempfer draws attention to a method which he considers valid for adult education, but which in our opinion is applicable to any level of education, *and specially — as will be seen — to the university.*

Once a problem has been posed in its living and specific complexity, the solution involves six stages:

— to define the problem (clearer understanding of its nature);
— to find the facts (to collect all the data about possible causes or effects related to the problem);
— to analyze these facts (in particular, to evaluate them);
— to decide (to make a choice between alternatives);
— to act (to carry out the decision);
— to evaluate (to appraise the results of the action) (3).

We may add that some phases of this process can be "simulated". Nevertheless, if a specific problem is treated in this way, it will be possible, for example, to employ mathematical and or statistical procedures, to call for the preparation of reports which correctly express conclusions (knowledge of the language), to consult material in foreign languages, to make use of concepts of the social or natural sciences and of geographical or historical knowledge. The premises of the problem must lend themselves to documentary research, to experimentation. It will thus be seen what purpose can be *served* by the "*subjects*" taught, how to use them working individually and in teams, how to integrate them with each other for a particular purpose. Basically, this is a generalization of the case study

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(1) We think that the formula of Dr. Ohama, in the reply to our questionnaire, is valid: "University education is considered to be general studies plus graduate work for specialization". "The greatest emphasis should be placed on general education within a broad cultural context." Professor Kapitsa has a similar point of view: "If the specialists have received a *sufficiently broad* education, they can, if need be, prepare themselves for the new spheres of science without having to follow new courses. The universities should, therefore, be opposed to occasional tendencies which aim at too narrow a specialization, which is characteristic in fact of the development of contemporary science as a whole".

(2) Para. 44 of the *Final Report* already quoted.

(3) See *Kempfer. Adult Education.* New York, 1965. Chapter 2, pp. 20-24 dealing with the "thinking process" for this is what we are really concerned with.

method. Its application requires time and assumes that the teaching of the "subjects" is streamlined by the elimination of curriculum overloading. It calls upon the competence of teachers with varied backgrounds working together with the students.

A specific and active form of education based on team-work, and involving tasks of responsibility, is needed to train the flexible "polyvalent" graduate, able to adapt himself and to use his knowledge.

The socialist countries.

In the socialist countries the same problems arise in the context of Szczepanski's conclusions, but their solution is sought in terms of planning techniques, and *thus in terms of economic calculations and adjustments.* What is at stake is a production of graduates (then, at the outset, a certain structure of admission to the university) which is able to meet the complex needs of the economy.

In this respect, Professor Kapitsa, in his reply to our questionnaire, shows concretely how guidance functions in the U.S.S.R.

"In our universities, the number of students is not determined by any tradition, nor by any wish or fashion for certain professions but by the needs of society (1). Here is an example to explain this. The State guarantees that a student, after graduating from a higher educational institution, has work in the speciality acquired, and since education in this country is free of charge, it sends the graduate to an industry and a region where he is most needed. In the overwhelming majority of cases, the student has the right to choose between several offers. If it happens that the interests of the State and those of the student clash, the State insists on the graduated specialist working for three years at the enterprise indicated. The State distribution of graduates is performed by a special commission of the university, consisting of the dean of the faculty, heads of its departments, and representatives of students, the public and of enterprises and departments. When deciding on the most appropriate place of work, the Commission takes into account the student's abilities shown during his studies, his family situation, personal inclinations and other qualities, sometimes very difficult matters being taken into consideration. If students are married, then only one of the couple is subject to distribution, according to their choice. The graduating and distributed student is protected by a number of special laws that require the administration to use him only in his speciality, creating for him decent conditions of life, etc.

I am dwelling on this in such detail because I want to say that the system of State distribution is a system of regulation of the number of specialists needed by the country, proceeding from which it is also established what number of students should be admitted to the first course. This very system protects the graduate against overproduction of specialists in the given sphere. As Dean of the Faculty, I take part in the distribution of graduates every year, and I must say that a very small per cent of graduates are dissatisfied with the results, and these are mainly negligent students who get worse jobs than capable and industrious students."

On the other hand, Pro-Rector Sergeev sums up the true characteristics of Soviet universities as follows:

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(1) These needs are set out in the Plan (author's note).

"The Soviet universities differ qualitatively from other models by their accessibility and their very democratic character. This is made possible by free education, by the fact that the material life of the student is sufficiently assured, as well as by the system drawn up for university admission: this system only retains as criteria the knowledge shown by the candidates during the entrance examinations.

The Soviet universities are characterized by the close link between the teaching process, scientific research and production. During their studies many students take an active part in the scientific work of their university: they carry out practical training of a productive nature in scientific research establishments, educational institutions and in cultural centres, industry and agriculture. They also participate in expeditions. As a result their efforts for obtaining a diploma are not of a purely theoretical character. They are often based on the practical solutions to basic problems. Their dissertations are either published in scientific reviews or kept for reference by the productive enterprises concerned.

All this creates a harmony of interests between the universities (and other institutions of higher education) and the State. The State applies the principle of planning in the development of the universities. It tends to strengthen their material structure and to guide their efforts to the advantage of all".

The developing countries.

For the developing countries, the needs are more urgent and more acute but also more elementary in a context in which the technical system is simpler and should, in the first phases, remain more stable. The *University of Dakar*, starting out with ideas borrowed from France, feels the need to adapt itself to different conditions: "Until now the University of Dakar placed stress on *general education* with a cultural background and only *partly* on vocational training... At present we are attempting to reshape the structures of the French-type university *in order to adapt the mission of the university to the needs of a developing society*. From this point of view, emphasis will certainly be given to the need *to train professional staff who can more easily be used by the economy and the civil service* (1) (our underlining).

Thus, whereas the rapid changes in technology are gradually leading the universities of the most advanced countries to give up highly specialized types of training in favour of more "polyvalent" types of general training, the universities of the developing countries are giving up general education in order to adopt curricula which provide the specialized types of training required by the technological development of the country. The trend is reversed, but the conditions are very different. Moreover, the concept of "general education" is directed to different ends and that of "specialization" refers to different levels. Dean Seydou Sy's argument is thus concerned with giving priority to the training of *middle-level manpower* at an "intermediate" level.

The need for management specialists.

All countries now have an urgent need for specialists in public or private administration. For the industrialized countries, this means high-level

(1) Reply by Dean Seydou Sy to our questionnaire.

managers, capable of mastering the most modern techniques of organization forming the interdisciplinary field of "scientific management" which, if one is to believe Servan-Schreiber, constitutes the basis of the American superiority, or rather, "challenge". And it is true that the integration of the innumerable complex factors of any undertaking (scientific, technical structural, human, financial, legal, forecasting, data-processing, etc.) into a coherent system of action poses in new terms—unlike the empiricism of the past—the problem of "management". *The university must face up to this overriding need of advanced development.*

For the developing countries, specialists in public and private management should simply be good organizers, good leaders of human and technical groups, generally medium in size, who represent a modern but traditional technological level, and not the pioneering spearhead of progress in the advanced countries which have large-market economies. This means essentially middle-level personnel, good sales-engineers, good executive secretaries in the most traditional sense of the conventional techniques of organization (as they go back to Fayol, for example).

The need for new university specialisties.

Lastly, economic development calls for new university specialties. In his reply to our questionnaire, Wilson quotes the following areas of study for the United States: "urban affairs", "water resources", "pollution", "international programs", "population", "ethnic studies", "black studies" and "area programs". All of them respond to needs arising from maladjustments and grave problems caused by the very development of the advanced societies... The area programmes of interdisciplinary study of regions of the world are designed to train "technical assistants" capable of promoting the economic development of the regions concerned, either within international organizations or under bilateral agreements or individual contracts concluded with the countries concerned. These "programmes" may complete basic training in one of the following subjects: agriculture, medicine, political science, economics, statistics, etc.

Dr. Ohama, in his reply to our questionnaire, mentions for Japan the problems of town-planning, national defence, population, environment (air and water pollution, noise, etc.)... He stresses the need, in *all* these fields, for the highest qualified specialists. Dr. Ohama also proposes the introduction of courses dealing with regional programmes or those carried out abroad.

The tables presented by Dr. Castellanos concerning Colombia, Mexico, Nicaragua and Peru show that the universities in these countries have now succeeded in incorporating nearly all the fields and careers covered by higher education, including architecture, fine arts and veterinary medicine. Amongst new specialities one may mention in particular:

Colombia: decorative arts and advertising, industrial relations, social service, tourism, public relations, electronic engineering, dietetics, animal husbandry.

Mexico: mathematical physics, information, nuclear engineering, accountancy, tourism, pharmaceutical biology, petrol engineering, botany, animal husbandry.

Nicaragua: administrative sciences, social service, electro-mechanics.

Peru: oceanography, banking, industrial relations, social service, chemistry, pharmacy, chemical psychology, biochemistry, animal husbandry, fishery.

Emphasizing that here it is a question of the specialities leading to diplomas or degrees, Dr. del Pozo, Secretary-General of the Union, points out the new *subjects* recently added to the programmes:... "municipal engineering, social anthropology, political sciences, journalism, industrial psychology, computer techniques, hydro-biology, agriculture, public health, etc. New institutes or departments have been created for statistics, vocational guidance, planning and development".

One can see that all the areas of the world have a diversification of studies and an increase in new specialities. "Novelty" here is a relative criterion and therefore should be understood in terms of each particular situation.

2. *The "social demand": the democratization of education and access to it. The machinery of social selection.*

The response to this social demand depends more upon the legislature, the state and the rise in the standard of living than upon the universities individually. Moreover, by the time young people enter the university, conscious and unconscious processes, institutional and latent, have already made a selection which begins to take effect from the cradle. *The scope of the problem thus ranges far beyond the university.* The study of all the factors involved was the subject of the report which we prepared for the *Conference of European Ministers of Education*, organized in Vienna by UNESCO in November 1967. We then took the following factors into consideration: social stratification, attitudes, motivations and prejudices, the financial factor, the wastage of intellectual abilities, sex, geographical location, and the structures, content and values of education itself.

Because of these factors – economic, socio-cultural and educational – the lower levels in the social stratification are still poorly represented at the university in many countries. To take an example which we know well, in Belgium only 10 % of the students are of working-class origin, whereas the workers represent more than 40 % of the active population. But the 10 % achieved today was only 4 % ten years ago, which means that democratization is being carried out gradually (multiplying factor of 2.5). However, there is still a long way to go.

In the socialist countries – as our Vienna report shows – the percentage of workers in higher education corresponds approximately to the percentage of this category in the active population. For them, democratization has largely been achieved, but this is still far from being the case for the peasants, whose percentage in the active population is still high in the Eastern European countries.

As for the sociological nature of the phenomenon of "social success", certain studies are gradually giving us a clearer idea of what this is.

"An investigation was carried out in France in 1961 by the National Institute of Population Studies using 2,500 persons appearing in the "Dictionnaire biographique français contemporain", which included the most outstanding figures in politics, the arts, the upper ranks of the civil service, sports, the army, and the world of science, literature and religion. Among the fathers of these persons we find:

— 2.8 % workers
— 5.7 % farmers
— 17.2 % businessmen
— 45.1 % members of the liberal professions and senior civil servants.

Now, at the turn of the century, the active population of France included 30 % workers, 46 % farmers and 5 % businessmen, senior civil servants and members of the liberal professions. We thus note a distorting factor of 10 for the sons of workers and of 13 (in the other direction) for children coming from the most privileged circles.

Similar findings may be noted with respect to admissions to the "grandes écoles". Another INED study shows that 66 % of their students come from 5 % of the population.

It is thus obvious (and, indeed, these figures were not necessary to convince us of this) that individuals do not start out in life with the same opportunities and that success smiles more readily, and more frequently, on those who are off to a headstart" (1).

Remedial action.

We cannot do better here than reproduce the most relevant passages from our conclusions.

1° *Factors of democratization at the university level.*

"As regards admission to higher education, "the die has already been cast" in most cases before young people begin to register for their first courses. Nevertheless, higher education, by its admission procedures, the financial and material support which studies involve, the choices offered, particularly with respect to duration and diversification, the chances of completing the studies undertaken (teaching methods, staffing facilities, counselling, types of examinations) and the possibilities of "salvaging" adults by evening and correspondence courses, may further considerably aggravate inferiorities due to social origin, sex and geographical location or, on the contrary, may compensate for them in the case of young people who, in the age group involved, remain academically able to tackle these studies". Such is the theory of the problem of democratization.

2° *The principle of equal validity of secondary studies.*

"The principle of according equal validity to all studies at the secondary level—subject to a uniform minimum period of study—for the purpose of admission to higher education, could be accepted with one restriction, the need to check the knowledge of certain subjects which are specifically required for entry into certain fields of higher education (for example: Latin for classical or romance philology; some branches of mathematics for the applied sciences and physics)".

This principle abolishes the discriminations against lengthy technical training and the branches of secondary education most frequented by children from underprivileged economic and socio-cultural environments.

3° *Orientation, guidance and information.*

"Prior to inscription in an institution of higher education, each candidate should have a thorough interview conducted in an atmosphere of information, orientation and guidance. Before taking the decision to register for a course the candidate should know the nature of the curriculum, the requirements, the difficulties and the job-outlets of the studies which

(1) See *Some Problems in the Development of Higher Education in Europe* (Antwerp Symposium, Sept. 1966), Belgian Ministry of National Education. Contribution of M. *Paul Arnaud* on continuing education, pp. 56-57.

he plans to undertake. He should know what is the preferable "orientation" suggested by the results of his secondary studies and of the tests he has taken. This first counselling should give him an idea — adapted to his personal case — of life in the institution he has chosen and of the way to carry out his studies. Students should be able to call upon a service which, from the moment of admission, will inform them of the best ways of meeting their spontaneous cultural aspirations, taking account of their studies (filling the gaps left by specialization as well as taking maximum advantage of possibilities offered in the field of the specialization itself).

The prior limitation of the number of admissions, either as a general principle in the countries with complete economic planning, or as a measure dictated by the admissions capacity or the regulations of institutions in market-economy countries, could constitute a useful subject for discussion. The right to education applies no less to higher education than to other levels and calls incontrovertibly for a response to the "social demand"...

"The solution could obviously be found through the organization of information and orientation. If this were effective, only marginal difficulties would remain. In addition, the types of training given by higher education should each be such as to provide within a rather broad field, the possibilities of adaptation, interchangeability and "polyvalence" of qualifications which are required by a society in which techniques and structures are changing rapidly. This observation poses the problem of a far-reaching revision of the attitude of university education and even more of higher technical education, towards specialization. If such a reform were carried out, the problems of orientation on the basis of job-outlets would be much simpler.

As is the case in Yugoslavia, adults (i.e., persons who are say five years older than the normal registration age) seeking admission to higher education should, in the absence of a secondary school certificate, be exempted from this requirement and should instead be required to pass an aptitude test...". "The orientation and guidance of students should play an important role, we have already said, from the time they enter higher education. During his studies, counselling should become the preponderant factor in "orienting" the student in relation to his university work, his life and his prospects for the future. This evidently would be counselling based on an awareness of problems and not the imposition of imperative pressures. Institutions of higher education would thus be equipped with "guidance centres": in universities, they would be the normal outgrowth of their institutes of psychology and psychiatric clinics; ethically autonomous "guidance centres" at this level would naturally also become centres for scientific research, related to the other branches of psychology, sociology and education.

Adequate staffing would be an essential compensating factor for students of modest social origin, who enjoy no family support for their work and still suffer from cultural deprivation prejudicial to their studies. Professors should be given substantial support by a number of assistants in proportion to the number of their students (1). This technical condition would constitute a factor making for improved academic performance. The latter, moreover, poses a serious problem, particularly in universities

(1) This principle has been put into effect in Sweden by the application of a system of automatic adjustment (according to Rector Per Stjernquist).

where failures and drop-outs are excessively high. Adequate staffing and guidance would no doubt improve the situation substantially, but the examination system must come in for its share of criticism as well. In the university "docimology" should give way to systematic research. After all, we do not know what are the real advantages of examinations spread out over the whole year or of concentrated examination periods, of written or oral examinations, of cumulative "credits", or of the need to succeed in all subjects during one examination period. Empiricism and prejudice reign. Research and exchanges of experience should be organized".

4° *Assistance to students.*

"As for financial and material assistance, the purposes and principles are no different from those in secondary education. However, the age of the students implies the need to take account of a greater "loss of earning" power. At this level, the student himself should receive the allowance and not the head of the family.

A particular difficulty has to be overcome in the market-economy countries. Students from economically underprivileged backgrounds avoid courses which last more than four years: law, medicine, applied sciences (engineering). Consideration might therefore be given to increasing substantially the financial assistance for courses which require more than four years' study.

It would also be appropriate in this context to consider the question of postgraduate studies, which are comparable to professional activities and should be remunerated as such.

Lastly, provision should be made for the planned development of "cités universitaires", student restaurants and other facilities (social, sporting, cultural, etc.), for they constitute a setting within which socio-cultural inferiorities disappear and financial assistance is the least costly and the most effective".

5° *Part-time education.*

"Evening and correspondence courses constitute an important corrective to the system. It was only quite recently that the value of these forms of education was recognized at the level of higher education... Admission to these types of courses should be subject only to an appropriate verification of the aptitudes and knowledge required to start the course in question.

Although the adults, who constitute the majority of the students, do not have the benefits conferred by training within an institution, and by university life in particular, they do bring to their studies the full experience of economic life in which they are active. The "cadres" of society should not all be trained in exactly the same way. It is, of course, true that certain courses involve practical work, laboratory and clinic classes, and field work. The educational system should make arrangements for these by organizing "evening sessions" and establishing "study leave".

Moreover, the most brilliant students in evening and correspondence courses should be admitted to full-time study and receive adequate financial support for this".

Such are the demands made directly or indirectly upon the universities with a view to democratization at their level, and some of the suggestions which have been made to meet the problem.

Orientation of studies.

Thus far we have approached the problem only from the point of view of the *overall* democratization of university level studies. But the orientation of the choice of studies is the reflection of social conditions: there is less democratization for those courses which lead to positions of power or privilege ("the liberal professions", for example) than for those which lead to "middle-level" posts (in secondary education or administration). Furthermore, although more and more girls are going to university, their relative inferiority is displayed in their choice of studies; indeed, many take the liberal arts courses with the hope that they will not have to make professional use of their degrees, but will become more cultured wives and mothers...

From the point of view of the needs of society (structure of the active population) the overall result of these trends is a general surplus of "literary" graduates as compared with "science" graduates required by the technical development of the economy and hence by the secondary schools.

The distribution of *French* students by disciplines in 1964-65 as compared with the vocational needs foreseen by the Plan provides evidence of this:

In percentages

Main disciplines	French students in the Faculties		
	3rd Plan	4th Plan	Actual situation
Law	21.4	15.6	17.5
Liberal Arts	23.5	26.4	33.1
Sciences	32.3	40.2	33.2
Medicine + Pharmacy	22.8	17.8	16.2

The picture is clear: too many "literary" and not enough "science" students to meet the needs forecast by the Plan.

As for women students, the following interesting table was published by Unesco: (See Table on following page).

The table shows that girls tend to choose education, the liberal arts and the fine arts—disciplines in which they often outnumber the men. The applied sciences and agriculture are masculine provinces, but one may note the high percentage of girl engineering students in the U.S.S.R. and agricultural students in Finland, and the medical profession is becoming more feminine in the socialist countries. In conclusion, it must be noted that in the U.S.S.R. the system of economic planning and of education makes it simpler for the specializations of graduates to correspond more easily to the structure of the working population. Professor Kapitsa points out that, in accordance with the needs of the economy, graduates in physics, mathematics, chemistry and biology are much more numerous in the U.S.S.R. than in history and philosophy.

A lack of balance, more or less frequent elsewhere, is thus avoided (1).

(1) Nevertheless, Professor Kapitsa emphasizes the time-gap between the appearance of new scientific needs and the response to them. Forward-looking research into the development of science could usefully be organized on the international plane, he believes.

TABLE XXX. HIGHER EDUCATION: PERCENTAGE OF WOMEN STUDENTS COMPARED WITH THE TOTAL NUMBER OF STUDENTS ENROLLED IN EACH DISCIPLINE

Country	Year	Literature	Education	Fine arts	Law	Social sciences	Natural sciences	Engineering sciences	Medicine	Agriculture	Total
Austria	1964	49.3	35.0	47.3	16.0	19.3	25.4	4.7	31.6	8.2	23.9
Belgium	1964	41.7	62.0	21.3	16.5	30.8	24.8	0.6	41.1	3.2	32.4
Czechoslovakia	1965	66.9	48.9	37.9	54.9	53.2	65.4	14.3	62.5	26.0	38.2
Denmark	1964	51.9	54.6	30.3	29.4	18.5	22.5	4.4	31.5	7.3	36.1
Finland	1965	75.5	55.0	30.5	26.8	43.3	37.4	3.6	48.8	39.0	49.1
France	1965	64.9	—	—	28.2	...	30.4	—	34.5	—	41.3
Federal Republic of Germany	1965	39.3	62.2	42.4	11.2	12.5	13.3	1.8	29.8	12.5	23.6
Hungary	1965	68.7	79.6	43.6	52.4	53.4	58.8	18.7	51.3	19.0	42.4
Ireland	1965	36.1	70.5	31.9	18.0	22.7	27.4	11.1	24.1	2.3	30.5
Italy	1965	65.9	77.7	26.0	16.4	27.9	31.9	0.5	18.3	2.9	35.5
Netherlands	1964	39.1	51.0	—	23.5	12.6	12.2	1.3	19.4	12.9	17.9
Norway	1963	40.1	29.4	22.1	7.7	7.1	17.3	2.5	19.5	6.5	22.4
Poland	1965	67.0	56.5	44.9	37.7	38.5	57.6	14.7	63.5	32.8	37.5
Rumania	1964	60.3	55.0	43.3	18.3	33.8	51.7	21.0	54.7	20.6	38.4
Spain	1963	61.6	65.2	16.7	12.0	15.6	24.7	0.8	20.6	2.0	20.7
Sweden	1961	50.7	50.3	...	17.3	25.9	26.6	4.4	32.6	9.2	34.3
Switzerland	1965	41.3	51.7	13.2	11.7	11.5	15.1	0.8	21.4	5.5	19.8
Turkey	1965	39.2	24.8	33.1	25.0	18.4	23.2	7.2	23.4	13.0	21.2
U.S.S.R.	1964/65	...	——— 64 ———		...	...	29	52	..	...	...
United Kingdom of England and Wales	1964	64.5	...	...	...	23.0	21.7	1.2	26.0	13.1	38.0
Scotland	1961	...	83.0	———	———	———	37.8	———	———	———	56.4
Northern Ireland	1964	44.2	64.9	40.9	13.8	31.3	16.3	1.9	25.4	5.9	33.5
Yugoslavia	1965	56.9	45.3	40.5	29.6	34.3	39.6	13.9	50.1	14.7	33.5

Sources: Unesco, *Statistical Yearbook for* 1966 (being printed); United Nations Economic and Social Council. Commission on the Status of Women (E/CN6/451). "Access of Girls and Women to Higher Education", 3 February 1966.

3. *The university, springboard for continuing education.*

"Continuing, or lifelong, education", which means the possibility for anyone, at any age, to undertake studies, whether "basic", complementary, "refresher", retraining or with a view to promotion, is a need which is ever more widespread in society. Initiatives of the most varied kinds are endeavouring, more or less successfully, to meet it but in an uncoordinated way emphasizing the absence of a general policy.

The fundamental cause of this educational phenomenon may be explained in the following way:

Continuing education, technological progress and the active population.

"Scientific and technical knowledge increases and renews itself so quickly that the "basis" furnished by school (including the university) soon proves to be insufficient and inadequate for everyone. New needs for knowledge arise from the very moment that studies have been completed. It will thus be necessary to "go back to school" several times in later life if one wants to keep "abreast of things" and "with it". This means that the instruments of knowledge must be made available and man must find an appropriate setting in which to use them, because, left to himself, he would run into insurmountable difficulties and would also find it hard to have efforts "recognized". Education and the guarantees it offers are thus no longer confined to first specialized period of life.

This is not simply a matter of knowledge which has to be thoroughly renewed during professional life, for this itself is changing radically: many men are already *obliged* to change "jobs" (and will have to do so more and more often) during their working lives, and many are *endeavouring* to do so right away in order to obtain promotion made possible precisely by the creation or expansion of increasingly highly-skilled occupations.

This social dynamic is well known and needs no demonstration here. The more technically advanced a country, the greater the fluctuation of its active population structure and the greater the intensity of social and geographic mobility. Torsten Husén has well defined the direction of this change in the hierarchy skills.

Let us consider four levels:

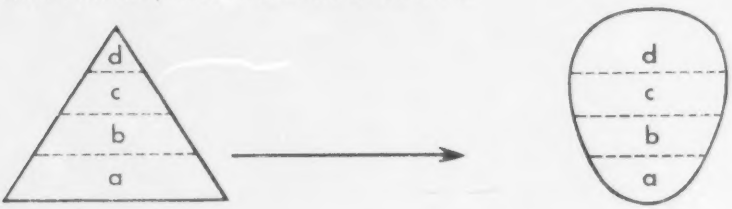
a. unskilled workers;

b. skilled workers (mainly manual);

c. administrative staff, supervisory staff, non-graduate technical staff;

d. *university-educated executive and technical staff.*

If the original size of each category is represented by a section of a pyramid, the latter will gradually tend to be replaced by an egg-shaped section with the pointed end at the bottom (1).



(1) *T. Husen. Lifelong learning in the "educative society" in Int. Rev. Appl. Psychol.*, Vol. 17, No. 2.

These mutations will actually be expressed by an increasing number of individual changes in occupation, for changes as compared with the father's occupation certainly already affect the majority of people. Neymark, in studies relating to Sweden, finds that only 6 % of young people in the cities and 11 % of young people in the countryside have the same occupation as their fathers. Over and above this, 42 % of the young men in a Swedish sampling had changed their occupation between the ages of 20 and 28 and only one-third had remained in the original occupation (at 20) (1). It is unnecessary to emphasize the needs for new knowledge which are implied by such changes, not so speak of those which are called for by technical progress within the *same* occupation.

We must also emphasize the decisive impact of the factor represented by the means of communicating ideas. These influence the way in which decisions are prepared, taken, carried out and checked, and affect the fundamental structures of action in all areas of society, particularly the political and economical.

In this connection western society has witnessed revolutionary changes. The use of an alphabet for writing was the first. The invention of printing was the second, in the 15th century. The telephone, the telegraph and the typewriter were the third, around 1900. Now television, the transistor and especially the computer are causing a new disruption of all the decision-making structures. Each time new occupations appear: the scribe, the printer, the shorthand-typist, the programmer. Each time the interdependence of men has changed within organizations, calling for new qualifications and new arrangements in hierarchy and human relations.

These various considerations explain the increase in adults' needs for "education", the inadequacy of the school and university system in a new context, as well as the rapid change in the very content of knowledge. This is so true that we see a new society emerging under our eyes and hence a new educational system, in spite of the resistance of the old system which is still charged with the weight of tradition". With the result that permanent education has become the key factor in the change of the educational system (2).

This point of view is in accord with the main lines of a paper presented by Mr. Melling on "continuing and systematic adult education" at the *14th University Congress of the International Association of University Professors and Lecturers*, held in Israel in September, 1967.

Demands on the university.

If these views are in keeping with the facts, the university is facing three demands:

a) *To provide facilities for the admission of older students* (we have already spoken of this in 2. as a means of making education more democratic; this factor is placed here in its proper perspective: technological change).

b) To organize systematically and on a large scale programmes of *"regrading and retraining"* (3); such action would, moreover, offer the uni-

(1) See Article quoted by *Torsten Husén*.

(2) Extract from a report we submitted to the *Cultural Committee of the Council of Europe*, on *Continuing Education, a factor for change in the present educational system*.

(3) The replies to our questionnaire (with the exception of India) include, for the advanced countries and the developing countries, indications of university action in this field. In the U.S.S.R. professors of less advanced institutions of higher education are required to attend, every five years, a four-months' course of active scientific training in one of the more advanced universities. This arrangement appears to produce excellent results.

versity an opportunity to engage itself in the very life of society and to cease to live in an ivory tower; this means, in effect, the introduction of curricula and of teaching in new subjects which will require outside *expertise* to be associated, more or less temporarily, with university teaching (this, it must be admitted, has generally been viewed with repugnance by the corps of full-time professors—the "professionals").

c) To carry out *research on the phenomenon of continuing education*, on its socio-economic and pedagogical aspects, on the structures with which it should be provided and on the repercussions of "continuing education" on the educational system as a whole; this is essential because continuing education is growing by leaps and bounds in a disorderly way which may cause it to fall short of its objectives, while the political authorities have not grasped the organizing role which they must assume.

Let us clarify the importance of the research to be undertaken by the university in this key area of the future of education.

Our scientific knowledge of differences in intellectual and character aptitude for study according to age is very incomplete and clearly inadequate. And if little is known about the influence on aptitude of changes in physical or physiological conditions with age, still less is known of the effects of changes in socio-cultural conditions and of the modes of life corresponding to the various phases of human existence.

These inadequacies are brought out by the outstanding survey presented by the *Review of Educational Research* concerning recent research on adult education (1).

Howard MacClusky shows that results are sporadic and short-lived. Scientific work has been mainly concerned with school children, and the norms established at this level have in fact then been used for adults. But the need is for tools specifically adapted to adults for measuring their characteristics and particularly "tests which take proper account of age". Adult differential psychology is not well enough developed and, in particular, there is a lack of research on the aptitudes of adults belonging to the lower social strata. True, it seems that the ability to solve new problems generally declines after a given time with age, but that general intelligence is always maintained at the same level until old age. However, we would not be bold enough to affirm that this has been demonstrated and that the mechanism of the phenomenon can be correctly described.

Gale Jensen and Albert Schrader deal with processes of socialization. Only some obvious general observations are given here as objectively demonstrated for adults because in this area too, the brunt of the research effort has been devoted to youth... The type of generalization developed by research on adults may be used to formulate propositions such as the following:

— Security in work (due to stability and a consistent attitude on the part of superiors) is favourable to the socialization of members of the group.

— There is a relationship between the personal accomplishment of executives and their feeling of autonomy as well as their degree of self-esteem.

— Excessive hierarchical structure leads to instability and dissatisfaction among the staff.

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(1) Vol. XXV, No. 3, June 1965.

— The size of an institution affects the reactions of its members with respect to their participation, their emotional attitude and their satisfaction.

We knew, as it were, without knowing...

Robert Boyd has made a study of the "group" considered as a socio-psychological element for analysis. Here, all the attainments of group dynamics, attainments more positive than for the preceding subjects, can be mobilized with a view to adapting them to the methods of adult education. And one might add that the same procedures would be applicable to young people in order to bring them sooner to adult status (1).

4. *Democratization of the university (Administration and teaching).*

1° *Democratization of administration.*

The problem "begins with youth".

After a long plenary debate on UNESCO's general policy, the 15 th session of the General Conference (Paris, October 15 to November 20, 1968) unanimously adopted a resolution dealing particularly with the problems of youth. The discussions of the delegations of member states thus took place in a world-wide context... In conclusion, the states recognized the need to find solutions to the problems of the younger generation. On the basis of a report prepared on this subject by the secretariat, the Conference included, among the elements which must be taken into account, *"access to the decision-making process in the fields which concern them (the young)"*. As far as students are concerned, this is a recognition in principle—even though vague—of their claim to participate in the administration of the universities (2).

The prerequisite of autonomy.

Let us note first of all that such participation in decisions makes sense only to the extent to which the university is itself empowered to take decisions, and hence enjoys a certain degree of autonomy. But it is obvious that to deal with problems as complex and specialized as those of higher education there must be decentralization, *de facto* if not *de jure*, otherwise the whole university system would be paralyzed and unmanageable. We have seen, moreover, that varying degrees of autonomy subsist everywhere in spite of the increased influence of the state.

It was to be expected that the *Round Table* of young university men and women brought together by UNESCO should have emphasized this point: "We would like to see a far-reaching reform undertaken as soon as possible to grant this autonomy to all universities" (3). This is the prerequisite: an "object" is needed to which democratization may be applied.

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(1) Extract from our Report to the *Cultural Committee of the Council of Europe* on *Continuing Education, a factor for change in the present educational system.*

(2) It is to be noted that UNESCO has made provision in its 1969/70 programme for a meeting of experts in 1970 "on the participation of students in the administration of the university, in order to determine to what extent they should be granted the possibility of sharing with the university authorities the responsibility for the conduct of their studies and for the administration of the funds made available to them".

(3) Document quoted para. 10.

Diversity of the groups making demands.

But students are not alone in wanting to participate democratically in decisions: the academic staff, wherever this right is reserved to an aristocracy of "titular professors", demands more democratic regulations. But the academic staff is divided on the matter of student participation, at least with regard to its extent and the matters to which it should apply.

In addition, the trade unions representing the technical, administrative and general working staff of the universities—who are becoming increasingly numerous—also want to have statutory recognition of their rights (1)

But who holds this power which people want to share?

It may be the state (the "Ministry"), a local authority (a city, for example), an ecclesiastic authority (for denominational universities), a Board of Trustees (as often in the United States), or a combination of these elements...

To be sure, there are often provisions for co-option to the governing bodies, and there are intermediate systems in which designated public or permanent administrators sit together with elected members (the Rector, Deans of Faculty, representatives of the teachers and in a few cases of the students). Power is always tempered by internal decentralization which leaves decisions on "academic" matters in the broad sense to bodies made up essentially of members of the academic staff: a university is always also *de jure* or *de facto*, to some extent, a "corporation of scholars". This influence is "technocratic" in nature: they possess the "knowledge" which is the very subject of university activity and the institution cannot, in fact, appoint new members of academic staff without the decisive action of the existing members.

The demands of the academic staff are old ones. Those of the administrative, technical and general working staff belong, in each country, to the context of trade union struggles. Those of the students are recent and have increased in strength and magnitude since the second half of 1968.

The traditional powers shaken up.

It is obvious that to a greater or lesser extent the traditional and autocratic university authorities are everywhere under attack by the student protest movement and are losing ground. There are also many signs that they have an uneasy conscience concerning their prerogatives.

The replies to our questionnaire bear this out beyond doubt.

Dr. Wilson (United States): "Some shift toward tripartite committee structure has been consciously encouraged in most schools. Few institutions are now administered without continuous involvement of councils composed of administrators, faculty, and students. The strong or autocratic academic president has passed from our scene, though anachronistic pockets of arbitrary impatience may still lurk within the bureaucracy. Commonly these pockets have lasted longer in admissions and business offices than in academic ones.

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(1) It is also necessary to mention the graduates of the universities who have already been taking part in the life of the universities in different capacities, individually and through their associations. With regard to this point, Professor Kapitsa mentions one form of participation in the U.S.S.R.... "Once every three years the University invites all its graduates to discuss with the authorities the shortcomings and merits of the curricula and programmes, as well as their everyday needs in professional life, and they answer sociological questionnaires. This reciprocal arrangement between the university and its graduates helps us to correct our faults and make trends more flexible".

The Board of Trustees is an organ of governance in our institutions that is not often known in Europe. The Trustees (or Regents) have found it increasingly difficult to sustain familiarity with their institutions as they have grown in size, complexity and costliness. *The institution of the Board is often under attack here now. The attack comes sometimes from students, and sometimes from faculty.* Given our corporate organization, the Board appears to me indispensable, and from my experience, Board members are more dedicated and selfless than the critics credit". (Our underlining).

Dr. Deshmukh (India): "... student participation in any form is at present unknown but *the winds of change are being felt in this respect in India.* Personally I have been long in favour of such participation with appropriate limitations".

Dr. Ohama: "The democratization of decision-making is shown by the participation of young assistant professors in the arrangement of vital university functions. In one sense or another, the students are participating on an increasingly wider scale in the moulding of the university's destiny".

Dr. Per Stjernquist (Sweden), after having shown that limited student participation has existed since 1964 in "Educational Committees", writes as follows. The rather long text deserves quotation in full, for it clearly brings out the principles which are involved, and makes it perfectly clear that the *whole* conception of the university and its place in society are at stake.

"As a consequence of the student disturbances in Europe and the above mentioned proposal for a new organization within the free faculties in Sweden, which was published in April 1968, there has been a very intensive debate going on about the goal and the formation of the university studies. In connection with this the same claim for a democratization of the university structure has been raised in Sweden as on the continent. One of the positive effects of this debate is that a larger part of the students is getting interested in changing their own study situation.

In July 1968 the government requested the Office of the Chancellor (1) to initiate as an experiment a more widened collaboration at the universities between students, teachers and other personnel within the universities. The purpose of the experiment, as it was stated in the principles given by the government, should be to give the necessary experience to build upon while realizing new reforms for a wider democracy within the universities. After very intensive discussions at all levels within the university organization, each university has made a proposal of how this experiment should be organized. These proposals are based on some common principles. Generally, the universities have found it desirable that the students should acquire more influence than they have today in all matters dealing with the content and form of education, but that they should not take part in decisions about administrative matters (for example, economic questions) and in scientific judgements (for example, the appointment of teachers and researchers). They have also pointed out that not only the students but also the non-permanent teachers and the other personnel within the universities should be given more influence. At the University of Lund, the result of this has been that the competence of the educational committees

(1) Let us recall that this is the highest public authority representing the government with all the universities.

has been enlarged and that the students as well as the non-permanent teachers have got a wider representation in them. In some of the educational committees a system with a majority of student representatives will probably be tried. In the institution boards there will be a larger number of student representatives than before, and in some questions the institution board is going to take over the right of decision from the head of the institution. There will also be representatives of other personnel at the institution in this institution board.

In the board of the university, mainly questions of an administrative and economic character are treated. Owing to the above mentioned principles, the students should not participate in this organ. There are, however, some reasons why the student representatives and the representatives of the other personnel within the university also should have the possibility to follow activities at this level.

Therefore, the board of the University of Lund has decided to allow, as an experiment, two representatives of students and three representatives of other personnel within the university to take part in the meetings, with the right to speak but not to vote.

It is at the moment very difficult to foresee whether these measures will lead to a reduced effectiveness in the work. One prerequisite for success is, however, that the students take a more active part in and get more interested in participating in the different organs".

Such is the general definition of the problem.

The variety of situations.

The vitality of traditions, the balance of power, the ruling opinions on local needs, and the role of strong personalities will decide whether, and to what extent, each university will become more democratic in its administration, but the general trend across the world is in the direction of an increased measure of democracy in the institution. This is evident.

It would be pointless to try to devise an ideal constitution for a university, because circumstances and conditions are different according to the countries, the political regimes and the status of education. In addition, we are dealing with an area where value judgements prevail.

Some formulae for discussion.

We shall confine ourselves to formulating some principles. It is hoped that they will not be taken literally as affirmations but as suggestions and subjects for discussion.

— Students should not participate in any decisions on scholarly matters; they may have no decisive voice either with regard to the appointment or promotion of members of the academic or research staffs; they may take part in any deliberations dealing with the "evaluation" of the work of students.

— They should have a voice in the general policy of the university (elected representatives on the Council), in matters of curricula, the nature of qualifications, teaching methods, teaching time-tables, organization of examinations and criteria governing them, etc.; they should express, in an appropriate and reasoned way, their opinions on the value of instruction and participate in decisions relating to its improvement; consequently, their elected delegates should take part in Faculty meetings and all committees when they are dealing with items within the competence of the students.

- The students should manage, under appropriate financial supervision of the administration, all the services which concern them and be responsible for student observance of the rules of university life (discipline).
- A student should have a right of appeal in all matters to a fully impartial university tribunal in which students participate.
- The students are entitled to receive full information on decisions taken by university governing bodies and on academic and administrative problems which arise; this information must be organized systematically, not only for the students but obviously also for the academic staff and research workers.
- Research workers, as soon as they are fully qualified, should have equal deliberative rights within the team to which they belong on all the matters raised by the activity of the group; scholarly decisions, however, are taken by the senior professor or group of professors in charge of the work and responsible for it to the university or the contractors; young research workers are entitled to facilities for preparing a doctorate or *agrégation;* when work is published every research worker in the team should be entitled to have his contribution to the common effort given a clear and fair mention.

All the research workers in the university have the right to designate their representatives to the administrative bodies at the university and the faculty level. They take part in the election of the academic head (Rector) and are themselves eligible for election. This equality between research workers and academic staff is necessary to ensure the proper relationship between teaching and research.

All academic staff, as soon as their appointments have been confirmed, have equal rights in the election of representatives (particularly the academic head (Rector), and the Dean of a Faculty or Chairman of a Department), and equal speaking and voting rights on bodies at all levels involving the participation of academic staff.

The administrative, technical and scientific staff must enjoy full trade union rights and be able to defend its interests in "paritary bodies" on which it will be represented by trade union delegates elected by the entire staff; in addition, staff should have reasonable but limited representation, given its function, on the supreme governing body of the university; the right to strike, with full guarantees for negotiating time-limits and procedures, must be recognized.

2° *Democratization of education.*

Discussions of teaching and examining methods.

Dynamic student movements are rebelling against *ex cathedra* teaching which assigns them to a completely passive role. They reject arguments based on authority in their class-room relations with the staff they demand the right of discussion and want to transform education into a dialogue. They want to learn *by themselves*, with the teachers limited to providing them with documentation and technical advice. They want to eliminate examinations and replace them by other methods of evaluation based on academic performance during the year. They want to prove that they know a subject (let us say modern history) and not the course of "Professor So-and-So" by heart. They want to banish the testing of memorized encyclopedic knowledge soon forgotten and immediately out-of-date

anyway — and to replace it by the testing of ability to make use of the relevant tools (treatises, questionnaires, bibliographies, etc.) and by "open-book" examining. They emphasize the completely artificial nature of the present examination exercise: in real life, nobody would dare compel himself to work purely from memory; what is necessary is to know how to *"manipulate"* a collection of knowledge embodied in books and documents, thought forms, and operating procedures; this is what students should be trained to do and on what they should be "appraised".

There are many positive elements in this trend towards an active and personal kind of education, towards *self-teaching* assisted by the teacher. In essence, the idea is to place the dynamics of the "small group" in the service of education. But does this mean that it is useless for a scholar to expound his ideas, his research and his problems because it would be considered to be *"ex cathedra"?* Some reservations are called for. Which of us does not owe a debt of intellectual gratitude to the teachers who "spoke", "spoke" while expounding living thoughts and methods which could not have been expressed otherwise than by this sustained speech and which would merely have been lifeless clichés had they been printed? What must be banished is the "fake" lecture which is nothing more than a "spoken text"... Here the students are right and, unfortunately, the evil has spread as a new form of "scholasticism", as deadly as that of the Middle Ages...

In consequence, the ideas of the students — even when expressed bluntly — should be given careful consideration and should serve as the basis for experiments.

However, it can be immediately asserted that such "democratized" methods require a much sounder staffing pattern providing the students with the help of *really competent* junior academic staff; the problem is not insoluble but it calls for two commodities in short supply: time and money...

We took these questions up when examining the consequences of the rapid growth of student numbers, the basic cause of the heterogeneity of the student body and the necessary condition for student protest *("contestation")* (see II, p. 26). We also raised the question of the meaning of the "learning" in connection with university education and professional training (see III, p. 51); we replied to it by proposing to give consideration to approaches like that of Kempfer, which seems to meet the deep needs expressed, albeit too vaguely, by student demands.

But once again, such an approach would call for substantial preparatory work by the academic staff and by the students. In the last analysis, it would mean considerable "streamlining" of the curriculum.

In fact, what is involved is a complete change in the present conception of higher education, of its structure, of teacher-student relations, and even indirectly of the duration of studies... which should be extended.

Need for a systematic study of the question.

We cannot but conclude that *the demand for the democratization of education makes it essential to subject it to thorough-going criticism and review.* This means questioning a whole past which is still quite alive in the present. Thus it is a kind of "contestation", but one which may lead to new "creativity" in university education, provided that we proceed with the deliberate composure of the scientist:

— Pose the problem correctly.
— Define possible solutions.

— Test them objectively.
— Propose a course of action as rapid as possible but which does not sacrifice a generation.

In this respect it is important to take into consideration the new techniques used in the transmission of knowledge, of the individual verification of their assimilation and the evaluation of their abilities within the framework of a given subject. We are concerned here not only with the use of audio-visual methods and, in particular, television, but also the steadily extending and more subtle possibilities of the computers. A systematic use of these media will pose the problem of staff-student ratio in new ways.

Educational experiments of this type have been made in the United States and Japan, the two countries (particularly the former) most advanced in this process, not lacking in difficulties, but full of promise.

3° *University freedoms.*

Their content.

The best established rights of administrative independence and the broadest democratization of education would be valueless if a climate of freedom did not reign in university life.

Every member of the university community should enjoy complete freedom to express his opinions on all subjects and have adequate means available to do so: bulletin boards, meeting places (a "forum"), publications with an "open forum", etc. The cover of anonymity cannot be accepted.

Freedom to disseminate ideas should be granted to the university without any censorship, legal or psychological, on the condition that it does not hamper the normal running of teaching and research.

The members of the community should enjoy the unrestricted right of association for the purpose of defending common opinions, political or otherwise.

Members of the academic staff should enjoy academic freedom within the framework of the curriculum and should bear full and exclusive responsibility for what they teach; this does not rule out the possibility of organizing teaching on a collegial basis or the collegial obligation to co-ordinate teaching in a coherent way with respect to content and progression.

Their defence.

But one precaution must be taken. It is essential to avoid the freedoms institutionalized in this way being "confiscated" by restless minorities which impose an atmosphere of intimidation and latent violence.

Such an atmosphere reigns or has reigned in universities in all parts of the world. The attempts to impose it, however, have failed in many cases. They are usually the work of groups which consider the university as a *means* (for ideological and "activist" purposes) and not as an *end* (its research and teaching function).

This situation and this threat are sufficient justification of the noteworthy resolution passed in April 1968 by the American Association of University Professors during its annual assembly.

The text deserves reproduction here:

"Colleges and universities are dependent for their very life upon maintenance of the principle set forth in the 1940 Statement of Principles on Academic Freedom and Tenure that "the common good depends upon the

free search for truth and its free exposition". Fundamental to the operation of this principle is respect for the right of all to speak, to listen, to try to persuade by reasoned argument, and to form a judgment based on full and free exposition and discussion.

The right to speak encompasses diverse modes of expression. It does not encompass action to foreclose full, open, and orderly debate, nor does it countenance actions by individuals or groups to restrict the free speech, actions, or academic freedom of others or to keep teachers and students from their central tasks of teaching and learning. The preservation on the campus of the free search for truth, freedom to teach, and freedom to learn is a common and primary commitment of all members of the academic community—faculty, administration, students, and governing boards.

In view of some recent events, the Fifty-Fourth Annual Meeting deems it important to state its conviction that action by individuals or groups to prevent speakers invited to the campus from speaking, to disrupt the educational operations of the institutions in the course of demonstrations, or to obstruct and restrain other members of the academic community and campus visitors by physical force is destructive of the pursuit of learning and of a free society. All components of the academic community are under a strong obligation to protect its processes from these tactics.

To this end, the Fifty-Fourth Annual Meeting of the American Association of University Professors recommends to faculties, administrations, student bodies, and governing boards, that, in accordance with the "Joint Statement on Rights and Freedoms of Students" and the 1966 "Statement on Government of Colleges and Universities", they establish effective joint mechanisms and processes for continuing examination of the conditions of campus life to ascertain that these conditions are at all times conducive to fulfilment of the academic community's purpose (1)".

We believe that the *real* exercise of these freedoms is an essential criterion in the defence of the university's *identity* against a form of invasion by outside forces, even if the latter are represented by regularly registered students.

4° *The university as a centre for the "criticism" of society at large.*

The student protest movements emphasize the "critical" function of the university with respect to society at large.

The university as a factor of political revolution.

Interpretations differ.

Some want to use the university as a springboard for agitation directed against so-called neo-capitalist or consumer society. For this reason, they seek to throw the university off balance and destroy it as an educational institution in order to transform it into a revolutionary centre, an arsenal whence would emerge activist and critical weapons powerful enough to shake society. In this way, the university would become a *factor of political revolution.*

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(1) *From Communication*, No. 60, December 1968, p. 59. This is the journal of the *International Association of University Professors and Lecturers.*

The university as a factor of cultural revolution.

Others want to democratize the university so that it may become a centre of thought freed from the influence of society at large and well-equipped to carry out a systematic ideological criticism of that society.

The university, a centre of "contestation", would thus be a *factor of cultural revolution.*

The university as a continuing factor of reform.

Still others would like to breathe genuine life into university freedoms so that, in a society threatened with conditioning by the mass media, by advertising and by the bureaucratic and functionally irresistible pressure of the large organizations of modern life, it could be preserved as a centre of objective and scientific criticism capable of renewing the structures of society. This would make the university a *continuing factor of reform.*

The university in the service of the established order.

Others, finally, see in the university only a "service" institution of society "as it is". By the quality of its services, particularly the results of its scientific research and the operational value and adaptability of the trained manpower and specialists it produces, the university in this conception plays a role in improving social structures and relations, but without attempting to question their principles and underlying values. Such an activity makes the university a continuing *factor of enlightened conservatism.* This is the position of many American universities which believe, explicitly or implicitly, in the value of the "American way of life", of the universities in the Socialist countries and of many universities in the developing countries. Their function is, however, "critical" in the sense that it tends to give a better and clearer definition of the ends—without questioning them—in a "perfectionist" spirit which is applied without restriction to the technical *means.* There is th is a *rapprochement* which is quite strange, culturally speaking: the concept coincides with that of the most radical "protesters", for it considers the university to be a *means* rather than an *end;* but the radical dissenters want to destroy it and the others to organize it better, the former want to use it *against* society and the latter *for* society.

Differences in views at the UNESCO Round Table.

The viewpoints expressed by the UNESCO Round Table are slightly different from, but not in contradiction with, our analysis. We give them below out of a concern for impartiality and complete documentation.

"11. The Round Table recognized that one of the university's functions in society is to make criticisms aimed at improving society. This, however, is only part of a university's social role. The participants differed profoundly as to the way in which such criticism should be made and the relationship between the social and political roles of a university. The Round Table expressed three essentially different views on this subject:

12. One view is that such criticism may lead to opposition to the established social order, if the universities do not accept the objectives assigned to them by society; these objectives may, for example, be defined and imposed by a single social class for its own benefit and to the detriment of other classes. If this is so, universities must be used, in association with these other classes, for political purposes, with the aim of bringing about by violent or peaceful means, an irreversible change in society, even if this change is desired only by an active minority. In such a case, action is based on the conflicting nature of the relations between social classes, and

the knowledge disseminated by the universities is only objective to the extent that it is of more use to the people than to the nation or the state. Reforms are desired which disturb the university's relationship to society, in order to force the university into a continuing self-examination and reappraisal of its role, and to produce in the long-or short-term a change in the organization of society.

13. The other view is that this critical function cannot be properly performed if the university is used for political purposes by one or more active minorities. Depending on political developments in a country, the university might become a permanent battlefield for different groups, being taken over by each group in turn. A university, whose aim is to be independent, should not open its doors to political pressure groups which would endanger its self-allotted social role. The members of the university community, in their capacity as citizens, must be free to express their political ideas inside and outside the institution. The traditional freedoms of the university must remain the framework for its critical role. This role must make it possible, through discussion, to promote reforms which will adapt the university to social developments and even accelerate such developments. However, in no case must these reforms have the effect of violating the impartiality of knowledge disseminated by the university.

14. Yet another view is that the university plays a particularly important social role in a society from which exploitation of man by man, national and racial oppression, and private ownership of the means of production have been banished. The university in socialist society is closely linked to the masses of the people. It exerts an active influence on all aspects of the economic, cultural, political and social life of the society.

15. The holders of all views nevertheless consider that criticism can and should lead to reforms which, if they are to be acceptable to all, must be of a kind involving a continuous advance towards objectives which will change the present social order at universities and in society in general."

The value of this document resides in the fact that the three tendencies together agreed to recognize each other mutually as having been well analyzed by these definitions which have this much in common (1).

The university of awareness and of excellence.

We can subscribe to the conclusion (see para. 15): the university must be a living centre of challenging scrutiny, of awareness of the real nature of social and cultural facts. Thereby it bears the promise of the future and assumes its highest function. A society becomes "sclerotic" and can no longer be renewed, except after its destruction by violence, if it does not contain within itself centres of criticism conceived, as it were, as "intellectual reservations" in the institutional sense of "natural reservations"... In contemporary societies only the universities can play this role. But the conformism of some of them, their tendency "purely and simply", we would say "naively", to serve society not only as it is but as it operates, as if *everything* (definition of values and means) "were for the best in the best of possible worlds", makes the university nothing but a school serving the social order in its massive and quiescent entirety. The university rises above this. We know that it is, that it must be something else, whether it is American, Socialist, European or Third World...

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(1) One may surmise that such a formulation — a rather novel event to the credit of UNESCO — was not achieved without difficulty...

IV

CONCLUSIONS

Contradictions of the university.

The universities of today are more or less subject, according to their own conditions, to contradictory tensions. This is the broadest generalization which emerges from our analysis...

This university tends to be integrated into the general educational system, but, at the same time, seeks an autonomous development. In institutional terms, the tension occurs between "public control" and "autonomy"; in pedagogical terms, between "academic freedom" and "socially integrated education"; in economic terms, between "social demand" (a certain socio-professional structure).

The university tends to accept the *whole* age-group concerned, but also devotes itself to training "an *élite*". In terms of evaluation, this tension occurs between "orientation and guidance" and "selection". For admission, the two poles are "freedom of access" or the "numerus clausus". It is the opposition between "quantity" and "quality".

For internal administration, the two poles are "democracy" and "technocracy".

When it comes to professional training the tension occurs between "specialization" and "polyvalence".

Two functions are struggling for preponderance: teaching and scientific research.

Two final purposes oppose and complement each other at the same time: universal humanism and economic development, disinterested general culture and pragmatic training for a profession.

Two sets of values condition an ambivalent form of action: the loftier the traditions and the more "futuristic" the ideas of progress.

Lastly, the university is considered to be in the service of society and its culture and simultaneously to exercise a "critical function".

But all these polarizations can and must give rise to syntheses which overcome the contradictions and go beyond the ambiguity of the institution.

For a sociology of the university.

It is indeed this capacity of conquering its own contradictions which will determine the university's possibility of reforming itself.

We are here in the heart of a sociology of the university which the latter should start to develop. It should thus become its own subject for research, i.e., become aware of itself. This is a procedure, on the collective level, which is not unlike psychoanalysis in the case of the individual. But here sociology and social anthropology are competent in the first instance. When will we have an "ethnological view" of the university? As many strange things might be found there as among the Papuans. And this remark is not intended to be pejorative.

The university and violence.

The university, an "open" institution without a police force, whose traditional reflex of autonomy (preserving the nostalgia of extraterritoriality, opposed to resorting to public force) is particularly vulnerable to student protests. These have shown its vulnerability even to the activities of small minorities, provided that they are determined to overthrow the barriers of hierarchical "respect" and of "prestige" which have for so long been sufficient guarantees of interior order, but which today appear ridiculous. All that is needed is a simple radical "refusal"...

Certainly, there is a riposte: an appeal to the organized force of society. But who can fail to see that this is an act of dependence on society as a whole? This situation reveals the paradox of a certain radical form of *"contestation"*: by its "activist" interpretation of the critical function of the university, it creates conditions which compromise its very basis by threatening the autonomy of the institution.

Most certainly it is right to denounce "police violence" and every intellectual in his regard for autonomy— always potentially threatened by any physical force — is sensitive to this.

But who is responsible for unleashing it? Must the university renounce its functions of teaching, research and questioning any truth? For true knowledge can only be that: it would not exist if "acquired" truths could be considered as final. Must it in consequence abandon asserting the "university freedoms" in a tolerant pluralism and leave the monopoly of criticism to certain groups more "intimidating", even more violent, than others?

Meanwhile it knows that all violence committed *within its precincts* or on *university issues* inevitably harms it... But which of the two violences should be accepted? It chooses the one which appears the most momentary, that of the police who "withdraw" once order has been restored rather than the one which wants to "move in for good"... That is the "choice" which it is sometimes obliged to make today by force of circumstances.

But certain political conditions make the use of police intervention in the university extremely dangerous. But how can it be avoided when violence persists?

The objective: university freedoms and democracy.

But this choice makes sense only if it serves to introduce or to restore, as the case may be, the climate of "university freedoms" and permits the establishment of the maximum possible democracy in administration and education. The "maximum possible"? What does this mean? What "restrictions" are hidden in the formula? Quite simply, the need for an "order" which ensures the normal effectiveness of university activities... Every social type has its specific order and it is negative and destructive to claim that democracy should have none.

These considerations concern chiefly the universities of the Western World and of Japan, but also some in the developing regions such as Latin America...

We know full well that here we have departed from our neutrality as rapporteur. Let the preceding text then be considered simply as evidence "to be added to the record".

Is the university's inability to reform itself insurmountable?

The university suffers from an operational weakness: its relative inability to reform itself administratively, whilst producing, without benefiting enough from them itself, the new methods of modern administration! (1) *The sociological study of the university would be designed to break down such barriers.* Is it necessary to say that this is urgent? Any end is compromised, if the means are lacking to work concretely for its achievement.

(1) Let us recall the diagnosis of the "dissenting" UNESCO Round Table: "In addition, the university is a traditional institution which lags behind the rapid development of modern society". Furthermore, Szczepanski, in his *Report* to the *Conference of European Ministers of Education* (Vienna, November 1967), writes in his conclusion (in fine): "Founded to encourage the creation and development of scientific methods, the universities are often reluctant to apply scientific methods to the analysis of their own operation". We have already touched on this topic from another point of view. See II, p. 46. *Consequences.*

ANNEX

The questionnaire used for the collection of material in preparing this report is reproduced below.

I

What new demands have been made by society on the university since 1950?

a) *New* demands arising from:

- the increase in student numbers;
- variations in the percentages of students in the different faculties and disciplines:
  - applied sciences and technology;
  - natural sciences (physics, chemistry, biology, medicine...);
  - social sciences (law, economics, sociology...);
  - human sciences (philosophy, philology, literature, history...);
- changes in numbers and distribution of *women* students?

Does the distribution of students between faculties and disciplines correspond, in your opinion, to the needs of society?

b) *Traditional* degrees and diplomas:

- demands in particular fields for larger numbers of graduates to meet increased needs of the economy, of the administrative services, of education, of social and cultural life?

c) *New* types of degrees and diplomas:

- recently created by the universities?
- which certain sectors of opinion consider it necessary to establish?
- which you personally consider it necessary to establish?

New disciplines or combinations of disciplines which have been, or in your opinion should be, introduced in university courses?

d) The extension of university status to studies at the level of higher education previously considered to be outside the scope of the university?

e) *New* areas in which research should be initiated or developed to meet particular economic and social needs (industry, health, etc.)?

f) *New* activities in the form of refresher or re-training courses, or specialized training for certain graduates?

What, in particular, are the needs and the response to them at the *postgraduate level*, including the award of highly specialized qualifications (doctorates, "agregation", etc.)?

g) Undergraduate studies:

- should the first degree be a terminal qualification?
- general studies or specialization?
- number of areas of study?

h) On which university activities does society tend to place the greatest emphasis:

- professional training at first degree level?
- the training of highly-qualified specialists?
- general education in a cultural context?
- scientific research?
- permanent education (refresher and re-training courses, etc.)?
- the role of the university as a centre for regional development?
- the role of the university as a centre for the critical appraisal of society, and for the initiation of change?

What is the order of priority at present given to these functions?

What changes have there been in these priorities since 1950?

II

What have been the consequences, since 1950, of any adaptation of the university in response to the qualitative and quantitative demands made on it? Changes in the areas of:

a) *Structures*

- Degree of autonomy?
- Faculties? Departments? Institutes? Courses and levels of study?
- Organization of chairs? Hierarchy of academic staff? Grouping of staff in teams? Student-staff ratios and relations? Particular problems of the optimum size of teaching units?
- Democratization of decision making? Participation of the various sections of the university community?

In particular, the new role of students? What are the repercussions on the effectiveness of education and training and on the operating efficiency of the institution?

b) Teaching

— Reform of methods of teaching and examining?

— Systematic use of new technologies?

c) Administration

— Reform of the administration of universities?

d) External Relations

— Changes in relations between the university and the state and between it and the private sector?

e) Finance

Methods and quantitative evolution of university financing?

f) Research

Status and number of research workers? Methods of financing? Structures and organization?

— Relationship between teaching and research?

III

Have there been changes since 1950 in society's image of the university and in the university's image of itself? How does one define the basic purposes of the university today in the light of its traditions and of the new demands of society?

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